

THE PARADOX OF NATIONAL INSECURITY:
BRAZIL AS A MIDDLE POWER
IN THE INTERNATIONAL ARMS TRADE SYSTEM

By

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For Kathleen and my parents

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TABLE OF CONTENTS

	<u>Page</u>
ACKNOWLEDGMENTS	iii
ABSTRACT	viii
CHAPTER	
1 INTRODUCTION: DEVELOPMENT-POWER LINKAGES	1
Economic Development and Power Relations	11
The Agent-Centered Power Argument	16
The Structural Power Argument	22
The Agent-Structure Debate	31
Power and the International Economic System	36
Concluding Remarks: The Paradox Revisited	38
Notes	44
2 MIDDLE POWERS IN THE INTERNATIONAL ARMS MARKET	52
The Measurement of Arms Trade	54
The Structure of the International Arms Market	62
Military Industrialization: "Catch-Up" Mercantilism?	94
The Paradox of National Insecurity	108
Notes	118

CHAPTER	Page
3 THE COLD WAR ORDER, 1940s-1950s	127
Antecedents to Brazil's Cold War Military Cooperation	130
The Post-war Doctrine of National Security	140
The 1952 Military Assistance Agreement	148
Concluding Remarks: Dependency and Nationalism	164
Notes	167
4 THE "GREAT POWER" PROJECT, 1960s-1970s	174
Shifts in Brazil's Foreign Policy Direction	177
Economic Growth and Power Perception	184
Indigenous Arms Production	199
An Assertive Middle Power	222
Concluding Remarks: Power and Discord	239
Notes	242
5 FACING THE PARADOX, 1980-1985	253
Science and Technology in Brazil	256
The International System and the Brazilian Arms Industry	273
The 1984 Defense Technology-Transfer Agreement	278
The Aftermath of the 1984 Military Agreement	286
Concluding Remarks: Facing the Paradox	290
Notes	296
6 CONCLUSION: POWER AND NATIONAL SECURITY POLICY-MAKING	303
Technology and Power Politics: Toward a New Research Agenda	308

	<u>Page</u>
Confronting Hidden Agendas	311
Geopolitics and Market Relations	317
Concluding Remarks: A Final Word on the Paradox	324
Notes	327
REFERENCES	330
BIOGRAPHICAL SKETCH	354

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The theoretical focus of this study lies in the linkage between power politics (agency) and market relations at the global level (structure). Power politics is expressed at the strategic level when nations pursue their "national interests," such as autonomy and political independence. The constant jockeying for position in the international system underlines the anarchic character of international relations. The global market constitutes the environment under which these actors must operate. Shifts in market relations help explain changes in conceptions of national security, as state actors respond to new challenges in the international economic system. Nonstate actors play a critical role in defining the state response to market shifts. This study uses the defense industry in both developed and

developing countries as an important sector defining a country's "national security" interests, separate from the political requirements of power politics.

The dissertation uses U.S.-Brazilian military relations since World War II as the basis for the study of agency-structure interrelations in the national-security arena. Three distinct phases are noted. First, under the politics of "uneven attraction" (1940s-1950s), the United States as the new global superpower used the emerging post-war structure to shape Brazil's national security perspective, as embodied in the 1952 military assistance agreement between the two countries. The second phase (1960s-1970s) points to the process of "liberation" in Brazil's national-security policy-making. Brazil's power leverage vis-à-vis the United States was enhanced with the European recovery and the new international division of labor (internationalization of capital and production). The development of an indigenous arms industry became viable, thus leading to the unilateral cancellation by Brazil of the 1952 agreement. During the third phase (1980-85), Brazil faced the "paradox of national insecurity." In order for its arms industry to survive financially, it had to import foreign technology, which again exposed the country to the political requirements of technology exporters. In the Brazilian case, we see this paradoxical process in the signing of the 1984 memorandum of understanding with the United States.

CHAPTER 1

INTRODUCTION: DEVELOPMENT-POWER LINKAGES

In recent decades, the emergence of newly industrialized countries (NICs) as aspiring powers--here, also addressed as "middle powers"--has provided fertile ground for international relations theorists.¹ Ironically, though, little has been done to incorporate NICs into mainstream international relations theory. The emphasis continues to be on the balance of powers, with the great powers occupying center stage.² Because balance-of-power is a static model, theorists have missed much of the dynamic change in political and economic relations between established and emerging industrial powers. Even when mobility is considered in the traditional literature,³ the focus rests on "already emerged" (rather than emerging) military powers that directly challenge the status quo, such as Germany in the 1930s.

Interest in the study of middle powers' behavior rose in the 1970s, as these actors moved away from the tight bipolar international structure that characterized the early years of the Cold War. Detente in East-West relations contributed to renewed attention on the behavior of regional powers in Asia, the Middle East and Latin America. Such attention was narrow in scope, however, tending to view middle powers as subordinate to great-power

politics. This perspective has become less adequate as East-West tensions subside and the socialist world diminishes in global importance.

Whether because of the rising importance of middle powers, or because of the apparent evolution of post-Cold War regionalism, there is a growing need to incorporate the economic successes of NICs into the study of power politics. Perhaps more importantly, a "middle power" perspective is wanting in the literature--a literature that would understand the processes enabling and conditioning their rise in international status and the impact that rise has had on international security in general.

A major analytical difficulty dividing the two key dimensions of middle power emergence (economic ascendance and power politics) has been the separation between "high" and "low" politics in the traditional international relations literature.⁴ At the high end, East-West military and strategic issues have dominated the literature, while at the low end are situated socio-economic issues particularly related to the North-South trade and development agenda. Such a distinction, however, has become increasingly blurred because of the broadening of a national security conception. As this study will demonstrate, many of the technological and commercial issues deriving from NICs' presence in the market are viewed by great powers as national security threats. NICs' acquisition of missile technology, for instance, has both commercial significance (satellite launching capability) as well as military application (ballistic missiles).⁵

This study seeks to bridge the division between "high" and "low" politics in international relations by analyzing the economic rise of Third World middle powers from a national security perspective. Recent research about declining U.S. competitiveness and industrial performance also links economic performance to national security issues, in ways that help bridge the gap between "high" and "low" politics.⁶ Many of these studies center on the decline's potential threat to the country's national security. One U.S. industrialist, for instance, has suggested that the very concept of national security is changing in this country, from a military emphasis to an economic one, following the demise of the Cold War.⁷

Such a "political economy of national security" is a traditionally joint set of concerns in the developing world. The Third World state has long been concerned with vulnerability to great power politics (particularly in the area of economic rewards and sanctions) and to catastrophic shifts in the world economy such as the Great Depression of the 1930s or the oil shocks of 1973-1979.⁸ Since World War II, the structure of the international system has changed due to the proliferation of sovereign states, many of which possess severely limited national power capabilities and suffer from weak domestic political systems. "These states," Stephen D. Krasner points out, "cannot control transnational flows or easily adjust to changes emanating from the international environment."⁹ NICs, however, occupy a special Third World niche because they are not so "exposed to vacillations of an international system from which they cannot extricate themselves but over which they

have only limited control."¹⁰ Such an assessment of NIC exceptionalism in the international system may be too optimistic, considering that NICs' economic growth is closely tied to their integration into the international economic system--a source of potential vulnerability to rapid changes in flows of trade, capital, and technology. The growing importance of regional trade blocs (e.g., The European Economic Community) has threatened to close important markets for Third World goods. Capital flight has continued to be a major drainage source of fresh investments, while U.S. banks continue to be leery of lending to the Third World because of the current economic crisis in some of the major debtor countries, such as Brazil. Technology export controls in developed countries have slowed the flow of high technology to many Third World recipients. Nevertheless, Krasner calls our attention to an important point in theorizing about the Third World: The foreign policies of those states are grounded in a national security prerogative dominated by vulnerability aversion and control over international processes.

What is new for both great and small powers is the connection of national security to an increasingly interdependent world market. National security becomes a complex function of the local economy's position in the world market. Industrialization enhances a nation's power attributes--a major source of security in an anarchic state system. "Security," therefore, is defined here not only to include the traditional conceptions of balancing power through productive capability, (e.g., the arms industry) but also the

competitive position of such an industry in the world market. These two sides, the dissertation argues, have become part of the same security game in the post-World War II political order. The central thesis of this study is that Third World countries such as Brazil have found the interrelation between security and interdependence paradoxical because the former has been conceptualized as a search for autonomy.

The relevance of middle powers' national security strategy after the war is found in the theoretical relationship that can be established between rapid economic development and conceptions of power within an increasingly interdependent world economy. To the extent that upward mobility and stability have been addressed in the literature, such as A. F. K. Organski's "power transition" or Robert Gilpin's hegemonic stability perspective, their application is limited to the nations already possessing a particular level of industrial might, which enables them to challenge existing hierarchy.¹¹ Such was the case of Germany in the two world wars of this century.

Although Organski rejects the balance-of-power perspective, his conception of power transition is rooted in the politics of great powers, which is really only a slight reformulation of the balance-of-power argument. In fact, there is little theoretical depth in either Organski's or Gilpin's discussion about the way development confers power and security, other than the simplistic observation that industrialization endows the nation with the means to wage both economic and military war.

On the other side of the theoretical spectrum, NICs' "success" is addressed in the context of an expanding world capitalist system, divorced from the international political trappings that the system of sovereign states entails.¹² In the "semi-periphery," Immanuel Wallerstein assigns a subordinate role to NICs.¹³ In the "world-system" conception, industrialization is part of a global phenomenon, which cannot be analyzed without clearly defining the interests of a core capitalist class, which, in this sense, only becomes another way of defining great powers. Unfortunately, this theoretical focus says little about the national security interests of these so-called semi-peripheral nations, other than to assert linkages between the interests of the core and the behavior of the periphery.

Between these two theoretical conceptions lies an uncharted analytical space that NICs have occupied empirically with competitive production and sale of armaments and used to redefine their traditional military links with great powers. This dissertation seeks to explore this new ground through a closer look at the development-power linkages, which are often either taken for granted or are left unresolved in both traditional and radical international relations literature.

This study uses the international arms market as an entry point into this effort for two reasons. First, military capability has traditionally been the power yardstick in the international relations discussions of "high" politics.¹⁴ By examining arms production from a political economy perspective, this study crosses the divide between high and low politics and reaches for power

conceptions that are expressions of both economic and military concerns. Arms production in many middle powers has had the dual purpose of promoting technological transformation and enhancing national security, the assumption being that a nation with high technological capability is economically and geopolitically secure. Powerful nations, after all, are associated with advanced technologies and skills that enhance their market competitiveness and their ability to manufacture weapons, a critical component of geopolitical security.¹⁵

The second reason for using the international arms market as an entry point to the study of development-power linkages is that NICs' involvement in the arms export business in recent years connotes deep changes in the international economic system itself, which has direct political consequences, such as the inability of great powers (e.g., the United States) to monopolize the flow of arms technology across regions and the dependence of Third World arms producers on export markets and foreign technology. Therefore, "low" politics also filters into the discussion of the interrelation between local development and power politics at the global level. Indigenous arms production is essentially an import-substitution industrialization (ISI) strategy, insofar as it seeks to reduce the political dependence associated with arms imports.¹⁶ But if the local industry needs to export the bulk of its production in order to survive (a cost-cutting strategy), ISI and "export-led growth" become intimately related.¹⁷

Both high and low politics are used in this study to provide new insight into a "paradox of national insecurity." Growing participation in the international market helps local arms manufacturers reach economies of scale and consequently reduce unit costs. Efficient economic performance enhances the competitiveness of the local product and the prospects of higher revenues, which may be invested in the development of more sophisticated products. Regardless, in national security terms, such economic efficiency leads to an improvement in indigenous military capability--a major factor insulating the country from simple trade-based reliance on foreign suppliers. Nevertheless, the fast pace of technological change in the international arms business requires that local producers quickly innovate in order to remain competitive.¹⁸

While NICs are busy assimilating new technology, producers from highly industrialized nations are creating the next generation of military technology. Unable to innovate fast enough through local means, producers in developing countries must seek foreign sources of technology. For many NICs, technology transfers have become the main source of "indigenous innovation."

The paradox is apparent: In order to realize a national security goal (the development of an independent local source of armaments), many middle powers have to substitute foreign ties of technological dependence for previous dependence on final product. The question is whether this helps national security or merely replaces one kind of dependence with another.

A closer look at the international arms market reveals the tenuous character that development-power linkages assume once emerging powers choose to deepen the local economy's integration into the arms trade system. More importantly, though, the paradox of national insecurity points to the importance in conceptualizing power both as a national attribute and as a structural phenomenon. Power is a product of the enhanced economic position of a country, but the price of that enhancement is measured in growing vulnerability to systemic forces shaping its direction. What is important about this particular case, however, is in identifying the way power is exercised at both levels: the way nations shape their environments (the development of indigenous arms production and redefinition of military alliances), and the particular historical circumstances constraining and enabling their national security strategy (expansion of the world economy through foreign direct investment and financial links).

The underlying dynamics of this paradox are found in the way these nations arrive at any particular national security strategy. The state may seek to develop an indigenous arms production capability so as to escape the vagaries of power politics. This is consistent with traditional conceptions of security in world politics. The Hobbesian dictum regarding human fear of violent death applies to nations in an anarchic state system. To Hobbes, security is the overriding human motive, so the attainment of power is the surest way of deterring the depredations of others.¹⁹ As a national security strategy, therefore, international links are to be minimized whenever they

promote high levels of external dependence. The local arms producer, however, operates on the basis of profit-motive. Thrust into the vagaries of the international market, the producer must remain competitive. If such a compelling dictum necessitates the establishment of external links with foreign technology suppliers, so be it. We can thus easily see the inherent potential of conflict between the state and local producers in the formulation of a national security strategy.

The remainder of this first chapter addresses the growing interest in the international relations literature in the national security content of economic issues such as competitiveness. This interest provides the basis from which two theoretical conceptions of development-power linkages are presented: agent-centered and structural. The last section of this chapter suggests a theoretical framework that combines elements of these two conceptions to be used in the case study of U.S.-Brazilian military relations since World War II. The central thesis of this study will be that Brazil's arms production program has suffered from the paradox of national insecurity. While Brazil has been successful in reducing its dependence on U.S. arms, the Brazilian arms industry has depended heavily on the international market for defense technology. Such a dependence has limited Brazil's leverage in security negotiations with the United States in recent years.

Economic Development and Power Relations

Power as an "essentially contested concept" covers many facets in social science research.²⁰ While settling this contestation falls beyond the scope of this study, integrating some diverse elements of power provides additional insight into the complexity of the issue in hand: the national security implications of rapid economic growth for middle powers.²¹

Traditionally, power has been associated with agency, as in the community studies of the 1960s that focused on decision-making--one actor's response to another's behavior.²² As a rejection of the elite theory of power, which rested on a reputational basis,²³ the emphasis of Robert A. Dahl's model was on the control of behavior: "A has power over B to the extent that he can get B to do something that B would not otherwise do."²⁴

Nevertheless, Dahl's framework came under attack for failing to address the structural dimension of power, or, in P. Bachrach and M. S. Baratz' words, the "second face" of power.²⁵ The criticism centered on Dahl's emphasis on decision-making, which neglected to explore how power was exercised whenever actors ensured that certain decisions were not made. The "non-decision-making" aspect of power was manifested through the mobilization of bias by those in dominant positions. Structure occupied the central theme in the mobilization of the bias debate because differing levels of resources were available to actors in the social system. Those actors with the most resources manipulate the system toward desired outcomes.

The structural component of power is linked to the relationship between dependency and vulnerability. Structure calls attention to the locus of power, as concerning freedom: "who can control whom?"²⁶ Countries avoid external dependency, not because it embodies a link to another country, but rather because dependency contains a vulnerability--a capacity to be hurt should that link be broken. Albert O. Hirschman in his classic study of the interrelation of power and trade, National Power and the Structure of Foreign Trade, argues that it is the concentration of external ties (rather than the magnitude of those ties per se) that counts in assessing power relations in the international trade system.²⁷

From these two conceptual frameworks (decision-making and non-decision-making) there has been in recent decades a growing interest in the nature of power relations in social theory. For instance, Steven Lukes's Power: A Radical View extended that debate to include three dimensions to power analysis. Apart from behavioral and non-decision-making aspects, Lukes added the conception of hegemony as an overarching dimension of power relations. Anthony Giddens has taken up the dialectics of agency and structure found in Lukes' work and transformed it into a dualism under which the two components become part of a single conception of power.²⁸

Both Giddens and Michel Foucault treat power as a highly generalized capacity to produce effects that would not otherwise have occurred.²⁹ The advantage of this conception for the present study lies in regarding compliance of others as a special case of an actor's "transformative capacity"

in achieving outcomes. This fundamental link between action and power dissociates the latter from any inherent connection with conflict and clashing interests, a common proposition in international relations studies of power relations.³⁰ Giddens and Foucault's view challenges the notion that power is necessarily coercive, always involving the imposition of sanctions in order to overcome resistance.³¹

Giddens' view of power, in particular, is a "power to" conception, of which the behavioral treatment of "power over" is only one component among many. Dennis H. Wrong agrees with Giddens that power is action that deploys means in order to achieve outcomes. Power should not be regarded as a resource; but instead as the mobilization by an actor of resources to produce effects. "Since these resources are unequally distributed," Wrong argues, "individuals and groups are unequal in their power although equal in their ability to act in a generically human way."³² Inequality of power resulting from inequalities of the resources that make possible the exercise of power is a distributive rather than a relational phenomenon. As such, development carries as its central component distributive changes (e.g., creation of an indigenous advanced technological capability) through which power may be exercised (e.g., the enhanced position of local producers in the international market).

The linkage between development and power can be established at these two power levels (agent and structural). At the agent micro level, power becomes the deployment of resources (industrialization) so as to

achieve security in an anarchic international system. As nations develop, they achieve higher levels of economic capability through which political goals may be secured. Development strategies call to our attention a conception of agency that resembles Max Weber's own view of power, which stresses the element of intention, or "will."³³ Weber defined power as the probability of carrying out one's will despite the resistance of others in a social relationship. NICs' own developmental policies have been placed in a setting that evoked resistance from already industrialized nations. Much of the literature about NICs' trade conflicts centers on this aspect.

In an asymmetrical environment, however, it is misleading to assume, as some realists do, that all politics (including development politics) is a struggle for power.³⁴ As Wrong correctly points out, "Politics includes both a struggle *for* power and a struggle to limit, resist and escape *from* power."³⁵ A central issue in power asymmetry is not only the dependence relation it may create, but also the potential "liberating" force it unleashes. The pursuit of economic and political autonomy became a driving national security perspective for many aspiring powers as they broke away from the Cold War order. Hirschman's argument that great powers often take advantage of the trading system to forge ties of domination with weaker nations is well taken. However, Hirschman's National Power--a pioneer work on the relationship between trade politics and dependence--missed the liberating dynamics that trade dependence unleashes at the domestic level, a point the author later recognized.³⁶ In his conception of national power and the international

structure, the distribution of power remains relatively unchanged over time. Hirschman's notion of dependence does not include the lesser powers' pursuit of "liberation," which is inherent in any industrialization policy.

The struggle to escape from power is undertaken at the structural level, as nations attempt to redefine their subordinate position in the power hierarchy. While development may lead to increased power in the international system by virtue of enhanced economic capability, power cannot be analytically understood unless placed within a specific historical context in relation to other actors in the system. Such a context is found at the macro level, structural power, which works as a "hidden hand" molding the very preferences actors assume. While development widens the actor's alternatives and ability to transform the environment, developmental policies are never formulated in a vacuum. The context of developmental choices lies in the placement of actors in the international system, with each exhibiting different resource capabilities.

Before we propose a framework for incorporating both agent and structural elements in the study of development-power linkages, it would be helpful to gain some notion as to the way each has been used in the international relations literature. While some analysts have focused their attention on power as an agent attribute (level 1), others have uncovered the power dynamics operating at the structural plain (level 2).

The Agent-Centered Power Argument

The agent-centered power argument focuses on the direct implication of development on an actor's increased capability to pursue foreign policy interests separate from the contextual structural demands. The development of a naval industry, for instance, allows a country to expand its maritime links without depending on others for transportation services. The linkage is established in the following sequence: Development leads to an actor's increased power in the international system, thus promoting national security. Development, therefore, confers power by deploying the means (naval industry) through which a nation enhances national security (self-reliance in maritime transportation). This sequence is a classic representation of such international relations studies that focus on the domestic components of mobility in the international system.

Proponents of this argument see the state as a dominant figure in the establishment of development/power linkages. As the motor of internal economic and military change, the state plays a central role in the transformation of the local economy. The agent-centered argument sees the actions of individual nation-states (agents) as defining international structure. Unlike structuralists, who see the international system as defining and constraining the character and possibilities of the agents (either dominant or subordinate actors), the agent-centered proponents assign greater freedom to actors in their effort to change the structure of the international system.

Systemic transformation comes from domestic industrialization. In this view, power is derived primarily from domestic attributes. Natural resources, population size, and arms production are often cited as the components of a state's position in the international system. This view of the development-power linkage poses state agency as the defining element in international structure. Changes in an individual country's capability (e.g., development of an indigenous arms industry) lead to an improvement in its position in the power hierarchy.

In the 1960s, Organski provided a standard agent-centered interpretation, which found its way to contemporary studies of war and peace.³⁷ His "power transition" concept fits within the argument that internal attributes determine the nature of national power, which in turn shapes the character of international relations. Organski identifies two major determinants of power: national (geography, resources, and population) and social (economic and political development, and national morale). Political development is particularly crucial, because, as he suggests,

it is largely through governmental direction that the human and material resources of a nation are mobilized to influence the behavior of other nations. Political development increases internal unity, stimulates economic development with all its important consequences for power, and organizes men and material into effective fighting forces.³⁸

In evaluating the determinants of power, Organski ranks the three most important elements of power: population, political development, and

economic development. The indicator of power capability is closely related to industrialization. As Organski argues, "The most powerful nations in the world today are all politically modern and industrial. The established leaders are those who industrialized first, and those who challenge them for leadership are nations that have industrialized more recently. This is not an accident."³⁹ Organski believes there are three stages of power transition: 1) potential power (small industrial output, although a nation in this stage may benefit from expectation of future world power status); 2) transitional growth in power (growth in industry and productivity, with nationalism running high and sometimes aggressive action toward the outside); and 3) power maturity (fully industrialized with high economic efficiency, but *relative* power declines because other nations are entering the second stage of transitional growth).⁴⁰ The gap between nations in the second and third stages often closes in *sprints*, as industrializing powers challenge the dominance of those in stage three. As Organski argues,⁴¹

It is these sudden sprints that keep upsetting the distribution of power in the world, threatening the established order of the moment and disturbing world peace. It is the differential spread of industrialization throughout the world and the resulting power transition, *not* some automatic balancing process, that provides the framework of modern international politics.

Any nation undergoing power transition may upset the existing order by becoming a challenger. As Organski suggests, "World peace has coincided with periods of unchallenged supremacy of power, whereas the periods of

approximate balance have been the periods of war. . . . Wars occur when a great power in a secondary position challenges the top nation and its allies for control."⁴² For nations undergoing power transition, the rise in power capability induces the nation to seek a greater share of the benefits the existing order provides. Satisfaction, therefore, is related to the response a challenger receives from the top of the hierarchy:⁴³

Industrialization is the source of much of the international trouble of the present period, for it expands the inspirations of men and helps to make them dissatisfied with their lot, while at the same time it increases their power to do something about their dissatisfaction, that is, to wrest a greater share of the good things of life from those who currently control them.

Another recent agent-centered interpretation of the linkages between industrialization and international power is found in Guatam Sen's The Military Origins of Industrialization and International Trade Rivalry, which tries to explain the roots of international trade disputes in manufactures.⁴⁴ Existing theories, Sen argues, are unable to explain the systematic pattern of such disputes. The author finds a more persuasive interpretive schema in the division of the international political system into competitive nation-states. His notion of national security, which is closely related to the conception pursued in this dissertation, is derived from this competitive environment. As he suggests,⁴⁵

The insecurity of existence in an international political system, characterized by the competitive relations of nation-state actors, prompts latecomer countries to pursue the goal of industrial transformation once the distribution

of power has been dramatically altered by the concurrence of industrialisation in firstcomer countries; military capability, on which the distribution of power and the status of countries is predicated, being heavily dependent on the level of industrialisation.

Sen suggests that competitive relations between countries in the international political system lead each government to play "a crucial role in fostering and maintaining . . . a self-sufficient industrial structure."⁴⁶ The author's thesis rests on the premise that the desire for such economic autonomy is ultimately "a function of perceived national security imperatives."⁴⁷

Such a pattern of state intervention was seen in the 19th century as Britain became the "firstcomer" in the process of industrialization. "Latecomers" followed British footsteps in two waves: in the first round came countries such as the United States, Japan, and several of the Western European nations; the second round of "latecomers" arrived after World War II in the form of NICs (including Brazil). Along with the arrival of each "generation," Sen suggests, came greater tensions over international manufacturing. Sen reflected much of earlier views on waves of development, as expressed in the development economic literature. The economic historian Alexander Gerschenkron, for instance, provided a classic study about latecomers in which he argued about the "advantages of backwardness."⁴⁸ Drawing on past experience, particularly in the area of science and technology, developing countries have achieved sustained development at a shorter time span.

The existence of a group of strategic industries (i.e., from steel to semiconductors) leads Sen to reject the Heckscher-Ohlin theorem of trade specialization by stressing "self-reliance" as the key issue in a country's trade policy. Self-reliance is crucial in Sen's analysis, because he not only relates the role of the state in the national economy, but also the relationship between national defense and strategic industries--a proposition Stanley E. Hilton makes in presenting the role of the Brazilian military in trade policy in the 1930s.⁴⁹ The Brazilian military was particularly interested in the possibility of Germany supplying military technology in exchange for raw materials. Sen establishes a linkage between national defense and economic policymaking:⁵⁰

Whatever the constitutive structure of the international political system, barring universal empire which would transcend the system of territorial states, the dominant reality is rivalry and competition between national actors, and the currency of transaction between them is power; and the highest denomination of this currency of power is military capability.

The agent-centered argument makes a contribution in viewing the state as an important actor shaping the process of international change. The dynamics of trade rivalry among nation-states in the post-World War II period has led scholars to explore a new area of research called strategic trade policy. Robert Gilpin defines it as "an attempt by a state to change the international strategic environment in ways that give advantage to the home country's oligopolistic firms."⁵¹ In essence, strategic trade policy has been used, as Gilpin suggests, in two main forms: "industrial preemption"

(blocking access to domestic markets so as to develop one's domestic industrial capability); and "import protection for export promotion" (the use of entry barriers to allow domestic firms to acquire advantages, such as economies of scale, in order to enable them, in turn, to dominate world markets).

Aspiring powers have taken advantage particularly of the first form ("industrial preemption") as a way of developing domestic industries. Subsequently, however, many of these industries have become competitive in world markets and have increased a country's export potential. Middle powers have been careful to promote a strategic trade policy that addresses its national security concerns. Several heavy industrial sectors have been targeted as "critical" (e.g., steel). The arms industry, however, has become a source of intense import substitution, while some middle powers such as Brazil and South Korea have turned it into a profitable export sector. This interrelation between strategic economic imperatives and national security policy-making has become a central issue in the development/power linkage literature as addressed in the agent-centered argument.

The Structural Power Argument

The structuralist argument finds in the distribution of capability the essence of an actor's national security perspective. The existing structure shapes and constrains the developmental possibilities of each actor. In this study, the literature on structuralism will be divided into three camps:

realism, revisionism, and postrevisionism. While some might argue that each camp does not reflect a progression from the other, they do present different analytical directions that are important in international relations theory-building. The first camp draws on the classical realist tradition of the 1940s and 1950s when scholars such as Hans Morgenthau conceptualized the emerging bipolar international order. Realism, however, did not gain a structuralist bent until the 1970s, when interdependence and neorealist schools formally integrated realist premises into a structuralist model.

Kenneth Waltz has become the most outspoken defender of structural realism.⁵² The behavior of state-actors--regardless of individual characteristics--can be understood by looking at the structural arrangement under which each actor finds itself. Therefore, U.S. containment policy can be explained not as a holy crusade of capitalism against communism, but the natural behavior of superpowers balancing each other in a bipolar structural arrangement. Waltz's focus on realism differs from that in Sen's military rivalry conception because Waltz does not account for the changes the international system undergoes once nations acquire new power capability--a contribution Sen's work makes. After all, a consideration of development as a domestic phenomenon would violate the structuralist integrity of Waltz's theory. As a result, structural realism has been criticized as static and giving little attention to the dynamic nature of international relations.⁵³

Another shortcoming in Waltz' structural realism is its sole emphasis on symmetrical relations--a concern with balance-of-power in the post-war

East-West military confrontation. Such a focus neglects the importance of asymmetry in international relations, a concern that the revisionist literature examines in the context of North-South economic relations. The revisionist camp, which became popular in the 1970s, addressed structural patterns of dependence between center and periphery. Although this literature has come to be known as dependency theory, "revisionism" seems to be a more appropriate term in this dissertation because it places the literature in the context of an evolving progression in international political economy studies. Revisionists did not necessarily break away from structural realism, but they did challenge the conventional thinking of their time by bringing the North-South dimension to the forefront of international relations.

Like the conventional theorists, revisionists also suffered from the same predilection for a static view of international relations. By dividing the world into center-periphery, there was little room for overlap. Just like the conventional view of structure as defining the character of individual action, revisionists also saw the center-periphery as establishing rigorous norms of dominance and subservience. Conceptualizing development, therefore, was a difficult exercise if it meant a transformation in power relations.

The revisionist camp--as a structuralist argument--sees domestic development as part of a global phenomenon. The individual power of a nation-state can only be ascertained in relation to how its local economy is integrated into the international system (either as a dominant or as a subordinated economy).⁵⁴ While development transforms the local

economy, it does not necessarily change the character of the international system. Consequently, the power of newly developed nation-states may continue to be limited by a constraining structure, if their subordinate role persists.⁵⁵ Further, development may simply be the expansion of a system whose control is found in only a few dominant nations. As a result, development in weaker nations may become a tool of imperialism by dominant nations.⁵⁶

Fernando Henrique Cardoso and Enzo Faletto conceptualize the development-power linkages in those revisionist structural terms.⁵⁷ They see a close association between local and international dominant classes in shaping the developmental process of a local economy. By viewing capitalism as an evolving system with global reach, Cardoso and Faletto suggest that domestic class relations are closely related to the economic processes taking place at the international level. The transformation of the international economic system leads to changes at the domestic level, with new class interests emerging. Such a transformation took place in Brazil at the turn of the 20th century, as a merchant and urban bourgeoisie replaced a landed aristocracy at the onset of Brazil's Industrial Revolution.

Even if a country experiences development, revisionists argue, a nation is not necessarily moving upward in the international power hierarchy. Immanuel Wallerstein's "world-system theory" does not discount the possibility of a peripheral country moving up in the structural hierarchy and becoming a core nation.⁵⁸ The debate about mobility in Wallerstein's

conception, nevertheless, has remained predominantly functionalist in character, with these aspiring powers becoming part of a sub-imperialist "semi-periphery," functioning as enforcers of core interests and rules within the periphery.⁵⁹ In describing the function of Southern Europe in the world-system, Wallerstein asserts that "Suddenly it became of interest to the core states to have Southern Europe play a strong semiperipheral role in the world-economy, especially if they could be closely linked to the core in political and ideological terms."⁶⁰ This simplistic view of development reflects a bias toward viewing peripheral transformation only as a function of external processes.

Revisionists argue that conditions of dependency often persist, as local dominant classes serve the interests of international forces. As a result, the nation finds itself trapped in the world capitalist order in a subservient role. Nationalism and populism do constitute social and political forces of development, according to Cardoso and Faletto, but they participate in the phase of domestic market consolidation, under which the "developmentalist state" prepares the ground for the internationalization of the domestic market.⁶¹ The new nature of dependence linked "the production sector oriented toward the domestic market to dominant external economies."⁶² Such a link reveals the structural limits on the process of national industrialization with the opening of domestic markets to external control. As Cardoso and Faletto suggest, "The peripheral economies were linked to the international market at the time when the center of capitalism no longer

acted solely through control of the import-export system, but acted also through direct industrial investment in the new national markets."⁶³ Therefore, the direct participation of foreign enterprise cast a new structural arrangement for the development of industries in the periphery.

In this new form of development, which Cardoso and Faletto call "dependent development," the public sector also plays a dominant role in local economic transformation. Peter Evans has made an important contribution in the conceptualization of "dependent development" by viewing the structural relations in post-1964 Brazil as a triple alliance: public sector, the multinational corporation, and the modern capitalist sector of the national economy.⁶⁴ The "tripod," in Evans' term, is the result of a careful balance among diverse interests. The state enterprise is incorporated into the network of international capital, while the participation of multinationals is carefully negotiated.⁶⁵ A nationalist state continuously attempts to pull the multinationals more deeply into the process of local accumulation, while the latter pursues a globalist strategy.⁶⁶

The emergence of NICs in the 1970s placed the revisionists in the tenuous position of having to explain the economic success of those countries in the context of peripheral capitalism. While "dependent development" constituted a viable analytical direction, revisionists found themselves more and more concerned with explaining exceptional cases even as late as the mid-1980s, such as the East Asian NICs' successful entry in the trade system. Hyun-Chin Lim, for instance, in looking at dependent

development in South Korea, makes the common assumption in the revisionist perspective: a country's structural position in the world capitalist system is a main determinant of development and underdevelopment.⁶⁷

An area that came to dominate the discussion in the late 1970s through the 1980s involved the apparent increase in political strength of governments in the "periphery" in negotiating foreign direct investment terms that conformed to strict local guidelines (e.g., export requirements, labor laws, use of local components and management). Studies about bargaining power between multinational corporations and "host" states moved the literature in the 1980s from revisionism to a "postrevisionist" camp. The focus of these studies centered on the relative bargaining strength of the two parties (the transnational corporations, or TNCs, and the state) with specific attention to the latter's capacity to break away from structural constraints and to become an "autonomous actor" in the developmental process (e.g., the ability of state managers to successfully pursue policies that might be in conflict with TNCs and local capital interests). Douglas C. Bennett and Kenneth E. Sharpe, for instance, observe that "the experience of Mexico shows that interests of the auto TNCs often led them to pursue courses of action that were detrimental to Mexican welfare, but it also shows that the state was able to alter their behavior to make them contribute more to industrialization and economic growth."⁶⁸

Evans himself has questioned his "dependent development" approach in a recent study of Brazil's computer policy.⁶⁹ The author argues that

technological change offers certain "moments of transition" that may provide Third World states with the opportunity to preempt policy initiatives. "At moments of transition," Evans suggests, "when the interests of local capital are still undefined and international capital may be caught off balance, state action may be decisive."⁷⁰ Such an interpretation leads Evans to consider the importance of a "state-centered model" to explain the crucial moment of an industry's origin, during which the state plays an entrepreneurial role. The use of such a model produces an effective argument for the interrelation between structural constraints and state "autonomous" action: "States cannot make industrial policy as they choose, but neither must they accept local industrial structures as exogenously determined."⁷¹ The slow revisionist conversion, however, has not dissolved its static center-periphery roots. Evans, for instance, while granting some state "autonomy" during the developmental process, has called attention to the way dependency has been "transformed" rather than "overcome."⁷²

Postrevisionism has emerged as a competing conception of Third World development within the dynamic of international capitalism. "Postimperialism" has become the main theoretical contribution found in postrevisionism. The concept of postimperialism grew out of two bodies of thought: political theories of the modern business corporation and class analyses of political power in the Third World. As a theory of international oligopoly, postimperialism stresses the move toward a "transcultural

bourgeois class coalescence"--the transnational class domination of the world as a whole.⁷³

Transnational enterprise is not viewed as a new form of imperialism, tailored to suit the postcolonial era--the "core" imposing structures of control on the "periphery." Rather, in an increasingly global market, transnational firms find it in their self-interest to include localization of labor and management. Whenever corporate policy deviates, the local state effectively imposes indigenization. The conception of state autonomy goes much further than the revisionist position, while at the same time separating the transnational firms from any particular "core" country. This perspective fits well within the recent interest on the internationalization of production and the evolving international division of labor.⁷⁴ Postrevisionism poses challenging questions about the interrelation between the state system (with its developmental state) and the global economic system (with an ever expanding capitalist class). In fact, the postrevisionist position destroys geographical parameters (East-West, North-South) in favor of a single global view of market processes, regardless of the stage of development of local economies.

Postrevisionism includes some elements of the agent-centered argument (the power of the state to break away from structural constraints), while retaining the importance of structural processes in defining the context of economic development. These combined elements (state power and the context of development) are part of an increasing interest reflected in the

postrevisionist literature with the evolving international division of labor, which will be more closely discussed in the last section of this chapter. With the breakdown of the old relations of industrial and "backward" worlds and the emergence of NICs in the global market, there is a new analytical direction toward unraveling the intricacies of state autonomy and market processes. Before we delve into this topic, the following section will provide a summary view of the agent-structure debate, drawing from the last two sections.

The Agent-Structure Debate

What the previous discussion on agent-centered and structural arguments suggests is that each side makes its own contribution, but in different analytical domains. The agent-centered conception of development-power linkages concentrates on the causal aspect of power relations. By capitalizing on resources accrued from development, actors can improve their power performance in the international system. The structural argument, however, focuses on the constraining character of structures in defining the parameters of an agent's freedom. The power of a structure lies in shaping the developmental alternatives for aspiring actors.

The two domains are often perceived as in opposition--a dialectic producing an unresolved dualism.⁷⁵ This study, however, seeks to incorporate both perspectives into a single framework exploring both the voluntarism found in agency-centered arguments and the determinism of

structuralism. The interconnections between the various power conceptions, as reviewed earlier in this chapter, provide the basis from which to explore the impact of development at the agency and structure levels. Agency produces structures that simultaneously serve as the conditions for reproduction of agency in a continuing process.⁷⁶ In other words, agency and structure can be viewed as interpenetrated.

A central problem in social theory, which is directly applicable to this study, lies in adopting a balance between voluntarism and determinism. While the former stresses agency as creative and knowledgeable, the latter concentrates on the constraints surrounding social action. One way of overcoming such a problem is to expand our conception of structure so as to capture agency's voluntarism. The "enabling" character of structure provides such a perspective. The mechanical view of social action--as something externally caused--stresses reproduction of social action, while enablement focuses on production, which is the key to understanding structural transformation.⁷⁷ Structure is both the medium and the outcome of the reproduction of social practices. Structures both constrain and enable social practices, while practices both embody and modify structures.⁷⁸ In other words, structure and action presuppose one another. Structure is often pictured as the anatomy of a social organism or the girders of a social edifice. Such images suggest that structure is rigid and static, as in Waltz's and Wallerstein's conceptions of the international system. But, in truth, it exists only in action, and action always has place and time.⁷⁹

Equally, action should not be conceived apart from structure. Although every society has a structure of domination, all actors draw on it and bend it to their own use. Thus structure (rules and resources, organized as properties of social systems) and system (reproduced relations between actors or collectivities, organized as regular social practices) are two sides of a unifying concept, dubbed by Giddens as "structuration."⁸⁰ Actors draw on structures to produce systems. Giddens's subjectivist ontology widens the concept of power to include all interaction as involving the use of power--drawing on resources in order to affect and order the environment.⁸¹

Giddens has had his share of critics because of his stress on agency voluntarism, an "illusory freedom of the constituting subject."⁸² Actors remain at the center stage of his theory, therefore, compromising the perceived interpenetration, or "duality," of agency and structure.⁸³ We notice this theoretical bias toward voluntarism particularly in his conception of domination.

Giddens sees dominant actors as benefiting from the "enabling" character of structure. Those in power establish a structure of domination through their own enabling process of resource deployment. This domination, in turn, constrains those over whom power is exercised. Giddens pays little attention to the ways in which the structure of domination may constraint the dominant actors themselves. This is an important point because the source of constraint may constitute in itself an "enabling" factor for weaker actors in their own process of liberation. In other

words, weaker actors may use the existing structure to liberate themselves from the existing order, thus, helping transform the social system.

The "enabling" character of structure is particularly important in the study of middle-power politics, because it elucidates the way through which weaker states have used the existing world order to transform their position in the international system. What this dissertation seeks to show is that although the United States--as the post-war hegemon--established new rules in the international economic system (e.g., the General Agreement on Tariffs and Trade, the International Monetary Fund, and the World Bank), this system had a dynamic of its own as part of a centuries-old world capitalist system. To say that the United States established the capitalist system after World War II is ludicrous. It is fair to argue that the hegemon reshaped the rules of the game so as to benefit itself and dominate others. However, the United States was not able to retain its dominant position, as the world capitalist system moved toward an internationalized network of production and the continuing diffusion of technology across borders.

A careful understanding of "enablement" is required as one defines the limitations of dominant powers. Structurationists have become harsh critics of structural theorizing, particularly neo-realism, because structuralists tend to neglect the agent's ability to bring about structural transformation. Structuralism insists on viewing structures as constraining the choices of pre-existing state actors, while failing to account for the enabling character of structures.⁸⁴

David Dessler's "transformational model," for instance, suggests that structures are "media through which action becomes possible and which action itself reproduces and transforms."⁸⁵ While structuralists have tended to see structures as an environment or "container," Dessler offers structure as a means to social action: "An office building, in this view, is not so much a setting for the activities of workers as it is an enabling structure that workers make use of to get their jobs done."⁸⁶

Dessler, however, does not examine how "workers" come to be employed in the office building in the first place. NICs, as new "employees" in the building, are integrated into the workforce through a complex process of "workload expansion" (the internationalization of production). Although one might argue that U.S. employment status in the building may be much higher than that of NICs, the United States is nevertheless only an employee--subject to the same labor laws that encircle all office occupants. The laws operate at the market level under which efficiency and cost-effectiveness are supreme.

Powerful states may attempt to bend the rules because of national security requirements, but ultimately local producers respond to market signals, rather than nationalist demands. Much of the current debate about the decline in U.S. competitiveness focuses on the painful realization that the country is only one employee among many in an increasingly crowded office building.

Power and the International Economic System

What the previous discussion suggests is that one has to look at changes in the international economic system in order to understand the evolving power relations in world politics. After all, Brazil could not seek an end to its military alliance with the United States unless it felt secure in its position as an arms producer. Such security, however, is grounded in Brazil's deepening integration in the world capitalist system--ground that is not always firm. This section outlines the context of aspiring powers' development policies, with particular attention to the role of technology in the promotion of industrial capability.

The post-war rise in foreign direct investment (FDI) gave a new impetus to capital accumulation in underdeveloped societies. The advent of worldwide industrial production led to the flow of commodities between plants of the same company. These "world market factories" drew on cheap labor in the creation of industrial enclaves in underdeveloped regions. The new conditions for the valorization and accumulation of capital generated a world market for production sites and labor, which included the use of both traditional industrialized and underdeveloped countries. Therefore, the emerging system destroyed the traditional division of labor under which underdeveloped economies supplied raw materials to industrialized countries, while the latter supplied manufactured products.

Foker Fröbel, Jürgen Heinrichs and Otto Kreye use the term "the new international division of labor" to designate that tendency that:⁸⁷

(a) undermines the traditional bisection of the world into a few industrialized countries on one hand, and a great majority of developing countries integrated into the world economy solely as raw material producers on the other, and (b) compels the increasing subdivision of manufacturing processes into a number of partial operations at different industrial sites throughout the world.

The authors see NIDL as an "institutional" innovation of capital itself. It is a consequence, rather than a cause, of the new conditions that emerged after World War II (e.g., the requirements of the world market for industrial sites), prompting countries and companies to tailor their policies and profit-maximizing strategies to these new conditions. For aspiring powers, the evolving international economic system presented itself as an opportunity to promote fast industrialization, import substitution, and export promotion. The economic transformation, in turn, set the stage for the development of indigenous arms industries with a proliferation of suppliers in the international arms market.⁸⁸

Technology transfer has occupied a central place in this sequence of developments, as multinational corporations sold technology to aspiring countries as a way of establishing a foothold in the new market.⁸⁹ As a means to perform a particular activity, technology has been identified not only as a process, but also as a national asset. As such, it becomes a critical part of economic policy-making with far-reaching implications to world trade.⁹⁰ Those nations with high technological capability enjoy greater prestige in the international arena, while the ones that fall behind in the technological race

find themselves downgraded in the power hierarchy. Technology transfers are thus used to close the gap.

Third World nations, however, are ambivalent about the transfer of technology from advanced industrial centers. On the one hand, it promotes domestic economic transformation and improves the competitive position of national companies in the international market. On the other hand, reliance on foreign technology leads to a dependent position that national security policy-makers find difficult to accept. Brazil's solution was to diversify the sources of technology so as to avoid excessive concentration from a single country. At the same time, the government promoted indigenous research and development. Such a strategy reflects what postrevisionists have theorized as the combined elements of state autonomy and the context of development (transnational capital and technology) in a continuing interpenetration at the global level.

Concluding Remarks: The Paradox Revisited

National security policy-making in the post-World War II order has to take into account both the increasing importance of high technology in weapons production and, at the same time, the internationalization of production, which encourages the diffusion of technology. Because of competition in the international market, suppliers are not always eager to transfer technology.⁹¹ The state often imposes technology export controls under national-security prerogatives (e.g., fear of advanced arms technology

proliferation in the Third World). As a result, the level of technology available for exports is under tight scrutiny.⁹²

Control over technology exports, coupled with weaker powers' insufficient domestic technological capability, has led some scholars to view a well-defined division of labor in the international arms market, "in which the advanced suppliers specialize in sophisticated systems and the developing country suppliers emphasize manufacture of older generation military systems, often under license or coproduction arrangements."⁹³ Helena Tuomi and Raimo Väyrynen have made a similar argument, viewing the NIDL as the expansion of "northern" transnational corporations (TNCs) worldwide.⁹⁴ The authors argue that the present international economic system increases aspiring producers' dependence on northern technology.

These authors present a contradictory conception of NIDL by making a geographical argument ("northern" technology), while stressing the autonomy of the arms industry in an internationalized production process. Rivalry among U.S. and Western European producers has become in recent decades a major factor in the continuing transfer of sophisticated technology, regardless of the geographical destination. This factor (rivalry among technology suppliers) constitutes an "enabling" power resource for NICs in their effort to remain competitive in the world market. By threatening to change suppliers, NICs are able to extract technology-transfer agreements from unwilling trade partners.

The argument used in this study does not take the same "voluntarist" road as in Giddens ontology by arguing that NICs are free to rearrange the international trade system so as to dominate the market. There are limits to NICs' developmental goals. Changes in the technology--particularly in the arms business--are so rapid that such a search for foreign suppliers becomes a continuing developmental priority. "Indigenous innovation" has to depend on external sources of technological change. This dependency is clearly a paradox in the state's national security strategy, given its interest in severing those dependent ties. Even if local producers diversify their sources of technology, they do not set the pace of innovation. They are technology takers. Such a dependency only invites fears of catastrophic events, such as the withholding of critical technology by a hostile foreign government in the middle of a national-security crisis. This possibility, in fact, was witnessed during the Falklands War in 1982, when the European Community cut technology transfers to Argentina, crippling its defense industry.

Such a paradox does not constitute a drawback for local producers. As long as they remain competitive in the global market, the source of technology is of no interest. For the state in aspiring powers, though, there is always the possibility of subordinating political interests for the sake of economic ones. This dissertation explores such a case in Brazil's decision to sign a new military agreement with the United States in 1984, despite the former's proclaimed "independence" in the late 1970s. While the signing of this agreement does not necessarily imply an intention to implement it,

there was a clear demonstration that economic interests (as articulated by local producers under the influence of market forces) took precedent over political requirements.

The Brazilian military's perception of a geopolitical threat during the Cold War (i.e., "communist subversion" of the domestic political process), along with its vision of Brazil as a potential great power, led to the development of an indigenous arms industry. The United States, however, did not attach the same strategic importance to the Southern Hemisphere. After the war, the United States transferred a significant amount of arms technology to Western Europe and Japan so as to counter the Soviet military presence in Europe and Asia.

U.S. efforts in South America, in comparison, were insignificant, although Brazil did sign a 1952 Military Assistance Agreement as part of the U.S. containment policy. Military assistance to Brazil consisted mainly of old technology and aging equipment. Even after the military came to power in 1964, the United States did not transfer any significant technology or sophisticated equipment.

Brazil's decision to turn to the newly modernized European arms industry for help proved beneficial. The transfer of European technology allowed the Brazilian industry to develop a complex arms production capability to the point of a successful entry into the export market in the mid-1970s. The newly found sense of military independence led to the

cancellation by Brazil in 1977 of the military assistance agreement it had signed twenty-five years earlier with the United States.

Brazilian integration into the international arms market, however, exposed its development policy to the paradox of national insecurity. The need to acquire ever more advanced arms technology to compete in the world market led Brazil to agree in 1984 to a new military agreement with the United States, this time seeking the transfer of sophisticated arms technology from U.S. sources. While Brazilian local producers welcome technology imports from the United States, the state does not encourage it because of the political stipulations attached to them, such as not allowing the export of arms built with U.S. technology to countries hostile to U.S. interests.

Although the United States would like to build closer relations with an emerging power, it is wary of sophisticated arms technology transfers to the Third World. As a result, the states on both sides have signed an agreement of which they do not intend to make extensive use. Suppliers in the United States see arms sales as a commercial deal rather than as an instrument of foreign policy. This pragmatic position creates a direct conflict between commercial and strategic interests. The signing of the agreement for the United States represents the dilemma that exists between these two interests. For Brazil, as an emerging power, the signing of an agreement with a technology supplier represents an important additional source of innovation which improves the competitive position of local producers in the international market. Nevertheless, dependence on a dominant power such

as the United States requires a political and strategic commitment that Brazil has avoided since its "declaration of military independence" in 1977. The ambivalence found in the implementation of the 1984 agreement represents the bargaining process that exists in Brazil's national security policy circles between commercial and strategic interests.

This study is divided into two parts. The first part considers theoretical propositions found in the development-power linkages (Chapter 1) and applies them to the study of the post-World War II international arms market (Chapter 2). The second part takes the specific case study, U.S.-Brazilian military relations since World War II, and explores (Chapters 3-5) the theoretical underpinnings developed in the first part. The last chapter (Chapter 6) broadens the case study to include a comparative view of other middle powers under a suggested analytical framework.

Before the case study is fully developed, the next chapter details the expansion of the international arms market after World War II. Much of the discussion in the present chapter about development and power is applied to the issue of arms trade. The next chapter discusses the effort of many NICs to develop indigenous arms production as a critical national security strategy. This effort reflects the agency-level argument as discussed in this chapter. At the structural level, the expansion of technology transfers is presented as an "enabling" factor in Third World arms producers' competitiveness.

Notes

1. For the purpose of the present study, the term "NIC" is an economic description of a country which has attained a level of development which sets it apart from other Third World countries, while the political-strategic expression of the same development is found in the term "middle power." For a discussion of the position of NICs in the international trade system, see Dominick Salvatore, ed., The New Protectionist Threat to World Welfare (New York: North-Holland, 1987); and Christopher Saunders, The Political Economy of New and Old Industrial Countries (Boston and London: Butterworths, 1981). For a more detailed look at the way the term "middle powers" is used in the international relations literature, see Steven L. Spiegel, Dominance and Diversity: The International Hierarchy (Boston: Little, Brown and Company, 1972); and Carsten Holbraad, Middle Powers in International Politics (New York: St. Martin's Press, 1984).

2. See, for example, Kenneth N. Waltz, Theory of International Politics (Reading, Mass.: Addison-Wesley Publishing Company, 1979).

3. A.F.K. Organski and Jacek Kugler, The War Ledger (Chicago and London: The University of Chicago Press, 1980). Organski and Kugler portray mobility as a "power transition," with fundamental consequences to international security. This concept will be discussed in greater detail in this chapter.

4. Both proponents of realism and interdependence have made this distinction in their textbooks. For a realist perspective, see John Spanier, Games Nations Play, 7th ed. (Washington, D.C.: Congressional Quarterly Inc., 1990). For an interdependence viewpoint, see Robert O. Keohane and Joseph S. Nye, Power and Interdependence (Boston: Little, Brown and Company, 1977).

5. For an excellent study of Third World acquisition of missile technology, see Janne E. Nolan, Trappings of Power: Ballistic Missiles in the Third World (Washington, D.C.: The Brookings Institution, 1991).

6. Charles Herzfeld, "Technology and National Security: Restoring the U.S. Edge," The Washington Quarterly 12 (Summer 1989): 171-83; and Edward A. Olsen, "A Case for Strategic 'Protectionism,'" Strategic Review 15 (Fall 1987): 63-9.

7. Lamar Bowles, interview with author, Houston, Tx., 22 May 1990. Mr. Bowles is a senior advisor to the President of Rockwell International.

8. Stanley E. Hilton, Brazil and the Great Powers, 1930-1939: The Politics of Trade Rivalry (Austin: University of Texas Press, 1975); Stephen D. Krasner, Structural Conflict: The Third World Against Global Liberalism (Berkeley and Los Angeles: University of California Press, 1985), 19.

9. Krasner, Structural Conflict, 115.

10. Ibid., 4.

11. A.F.K. Organski, World Politics, 2nd ed. (New York: Alfred A. Knopf, 1968); Robert Gilpin, War and Change in World Politics (New York: Cambridge University Press, 1983).

12. For a representative sample of this tradition, see Immanuel Wallerstein, "Dependence in an Interdependent World: The Limited Possibilities of Transformation Within the Capitalist World-Economy," African Studies Review 17 (April 1974): 1-26; Immanuel Wallerstein, "Semi-peripheral countries and the contemporary world crisis," Theory and Society 3 (Winter 1976): 461-84.

13. Immanuel Wallerstein, "The Relevance of the Concept of Semiperiphery to Southern Europe," in Semiperipheral Development: The Politics of Southern Europe in the Twentieth Century, ed. Giovanni Arrighi (Beverly Hills: Sage Publications, 1985), 31-9. The term (semi-periphery), however, has remained vague and obscure. See Ruth Milkman, "Contradictions of Semi-Peripheral Development: The South African Case," in The World-System of Capitalism: Past and Present, ed. W. L. Goldfrank (Beverly Hills: Sage Publications, 1979), 264, in which the author suggests: "Wallerstein has done little to specify what is distinctive about a semi-peripheral location in the world-system. . . . The category seems to serve as a catchall for all of the countries that includes such diverse cases as Canada, China, Iran, and Poland, as well as Brazil and South Africa." Even the Ivory Coast has been included in the "semi-peripheral" zone: see Karen A. Mingst, "The Ivory Coast at the Semi-Periphery of the World-Economy," International Studies Quarterly 32 (Sept. 1988): 259-74.

14. Martin Wight, Power Politics (London: Royal Institute of International Affairs, 1948).

15. Paul M. Kennedy, The Rise and Fall of the Great Powers (New York: Random House, 1987).

16. Ron Ayres, "Arms Production as a Form of Import-Substituting Industrialization: The Turkish Case," World Development 11 (Sept. 1983): 813-23.

17. For a good discussion about ISI and export-led growth, see Paul Streeten, "A Cool Look at 'Outward-looking' Strategies for Development," The World Economy 5 (Sept. 1982): 159-69.

18. Curt Gasteyer, Searching for World Security (New York: St. Martin's Press, 1985).

19. Dennis H. Wrong, Power: Its Forms, Bases, and Uses (Chicago: The University of Chicago Press, 1988), 220.

20. Steven Lukes, Power: A Radical View (London: Macmillan, 1974).

21. Lukes himself has argued in an edited volume, Power (New York: New York University Press, 1986) that perhaps the search for a generally satisfying definition of power is a mistake: "What unites the various views of power is too thin and formal to provide a generally satisfying definition, applicable to all cases." (pp. 4-5)

22. Robert A. Dahl, Who Governs? Democracy and Power in an American City (New Haven: Yale University Press, 1961).

23. C. W. Mills, The Power Elite (Oxford: Oxford University Press, 1956).

24. Robert A. Dahl, "The Concept of Power," Behavioral Science 2 (1957): 201-15.

25. P. Bachrach and M. S. Baratz, "Two Faces of Power," American Political Science Review 56 (Dec. 1962): 947-52; P. Bachrach and M. S. Baratz, "Decisions and Nondecisions: An Analytical Framework," American Political Science Review 57 (Sept. 1963): 632-42; P. Bachrach and M. S. Baratz, Power and Poverty: Theory and Practice (Oxford: Oxford University Press, 1970).

26. Lukes, Power, 10.

27. Albert O. Hirschman, National Power and the Structure of Foreign Trade (Berkeley and Los Angeles: University of California Press, 1945).

28. Anthony Giddens, New Rules of Sociological Method (London: Hutchinson, 1976); and Anthony Giddens, Central Problems in Social Theory: Action, Structure and Contradiction in Social Analysis (Berkeley and Los Angeles: University of California Press, 1979).

29. M. Foucault, "Disciplinary Power and Subjection," in Power, ed. Steven Lukes (New York: New York University Press, 1986), 229-42.

30. See, for instance, David A. Baldwin, Paradoxes of Power (New York: Basil Blackwell, 1989).

31. Wrong, Power: Its Forms, Bases, and Uses, viii.

32. Ibid, ix.

33. Max Weber, Economy and Society, trans. G. Roth and C. Wittich (Berkeley and Los Angeles: University of California Press, 1978).

34. Hans J. Morgenthau, Politics Among Nations, 5th ed. (New York: Knopf, 1973).

35. Wrong, Power: Its Forms, Bases, and Uses, 13. Italics in original.

36. Albert O. Hirschman, "Beyond asymmetry: critical notes on myself as a young man and on some other old friends," International Organization 32 (Winter 1978): 45-50.

37. Organski, World Politics; Organski and Kugler, The War Ledger.

38. Organski, World Politics, 183.

39. Ibid., 339.

40. Although Organski presents these stages as a logical outcome of international processes, they should be viewed more as a historical outcome, particularly linked to two world wars in this century.

41. Organski, World Politics, 344; emphasis in original.

42. Ibid., 364.

43. Ibid., 367.

44. Guatam Sen, The Military Origins of Industrialisation and International Trade Rivalry (New York: St. Martin's Press, 1984).

45. Ibid., 249.

46. Ibid., 7.

47. Ibid., 77.

48. Alexander Gerschenkron, Economic Backwardness in Historical Perspective (Cambridge, Mass.: Harvard University Press, 1962).

49. Stanley E. Hilton, Brazil and the Great Powers, 1930-1939; The Politics of Trade Rivalry (Austin: University of Texas Press, 1975).

50. Sen, The Military Origins of Industrialisation, 66.

51. Robert Gilpin, The Political Economy of International Relations (Princeton, N.J.: Princeton University Press, 1987), 215; for a sample of this literature, see Paul R. Krugman, ed., Strategic Trade Policy and the New International Economics (Cambridge: The MIT Press, 1986).

52. Waltz, Theory of International Politics.

53. Alexander Wendt, "The agent-structure problem in international relations theory," International Organization 41 (Summer 1987): 335-70.

54. Peter Evans, Dependent Development: The Alliance of Multinational, State, and Local Capital in Brazil (Princeton: Princeton University Press, 1979); Theotonio dos Santos, "The Structure of Dependency," American Economic Review 60 (May 1970): 231-6.

55. Wallerstein, "Dependence in an Interdependent World."

56. Ruy Mauro Marini, Subdesarrollo y revolución (Mexico City: Siglo Veintiuno Editores, 1969).

57. Fernando Henrique Cardoso and Enzo Faletto, Dependency and Development in Latin America, trans. Marjory Mattingly Urquidí (Berkeley and Los Angeles: University of California Press, 1979).

58. Immanuel Wallerstein, "The Present State of the Debate on World Inequality," in The Gap Between Rich and Poor: Contending Perspectives on the Political Economy of Development, ed. Mitchell A. Seligson (Boulder and London: Westview Press, 1984), 119-32.

59. Immanuel Wallerstein, "Semi-peripheral countries and the contemporary world crisis," Theory and Society 3 (Winter 1976): 461-84; A. D. Roberts, "The sub-imperialism of the Baganda," Journal of African History 3 (1962): 435-50.

60. Wallerstein, "The Relevance of the Concept," 38.

61. Cardoso and Faletto, Dependency and Development, 143.

62. Ibid., 140.

63. Ibid., 160.

64. Peter Evans, Dependent Development: The Alliance of Multinational, State, and Local Capital in Brazil (Princeton: Princeton University Press, 1979).

65. Ibid., 227.

66. Ibid., 276-7.

67. Hyun-Chin Lim, Dependent Development in Korea, 1963-1979 (Seoul, South Korea: Seoul National University Press, 1986), 13.

68. Douglas C. Bennett and Kenneth E. Sharpe, Transnational Corporations Versus the State: The Political Economy of the Mexican Auto Industry (Princeton: Princeton University Press, 1985), 253.

69. Peter Evans, "State, Capital, and the Transformation of Dependence: The Brazilian Computer Case," World Development 14 (July 1986): 791-808.

70. Ibid., 805.

71. Ibid.

72. Ibid., 804.

73. David G. Becker, Jeff Frieden, Sayre P. Schatz and Richard L. Sklar, eds., Postimperialism: International Capitalism and Development in the Late Twentieth Century (Boulder & London: Lynne Rienner Publishers, 1987).

74. Folker Fröbel, Jürgen Heinrichs, and Otto Kreye, The New International Division of Labour, trans. Pete Burges (Cambridge: Cambridge University Press, 1980).

75. Such is the dialectical position we find in Lukes, Power: A Radical View.

76. Giddens, New Rules.

77. Ibid.

78. Stewart R. Clegg, Power, Rule and Domination: A Critical and Empirical Understanding of Power in Sociological Theory and Organizational Life (London: Routledge and Kegan Paul, 1975).

79. Giddens, Central Problems.

80. Ibid.

81. Anthony Giddens, The Constitution of Society (Cambridge: Polity Press, 1984).

82. Stewart R. Clegg, Frameworks of Power (London: SAGE Publications, 1989), p. 147)

83. J. M. Barbalet, "Power, Structural Resources, and Agency," Current Perspectives in Social Theory 8 (1987): 1-24; D. Layder, "Key Issues in Structuration Theory: Some Critical Remarks," Current Perspectives in Social Theory 8 (1987): 25-46.

84. Alexander Wendt, "The agent-structure problem in international relations theory," International Organization 41 (Summer 1987): 335-70; Alexander Wendt and Raymond Duvall. "Institutions and International Order," in Global Changes and Theoretical Challenges, eds. Ernst-Otto Czempiel and James N. Rosenau (Lexington, Mass.: D.C. Heath and Company, 1989), 51-73.

85. David Dessler, "What's at stake in the agent-structure debate?" International Organization 43 (Summer 1989): 467.

86. Ibid.

87. Fröbel et al., The New International Division, 45.

88. Rodney W. Jones and Steven A. Hildreth, Modern Weapons and Third World Powers (Boulder, Colo.: Westview Press, 1984), 64.

89. Katherin Marton, "Technology Transfer to Developing Countries via Multinationals," The World Economy 9 (December 1986): 409-26.

90. Anne G. Keatley, ed., Technological Frontiers and Foreign Relations (Washington, D.C.: National Academy Press, 1985).

91. Norman A. Graham, "Security Dilemmas in the Sale and Transfer of Pacing Technologies," in Marketing Security Assistance: New Perspectives on

Arms Sales, eds. David J. Louscher and Michael D. Salomone (Lexington, Mass.: D.C. Heath and Company, 1987), 218.

92. William J. Long, U.S. Export Control Policy (New York: Columbia University Press, 1989).

93. Jones and Hildreth, Modern Weapons, 7; see also Stephanie G. Neuman, "International Stratification and Third World Military Industries," International Organization 38 (Winter 1984): 167-97.

94. Helena Tuomi and Raimo Väyrynen, Transnational Corporations, Armaments and Development (New York: St. Martin's Press, 1982).

CHAPTER 2

MIDDLE POWERS IN THE INTERNATIONAL ARMS MARKET

Chapter 1 outlined two important aspects of power relations that we will explore now in the context of the international arms trade system. At the structural level, we will deal with the enabling power of structure, which facilitates middle powers' participation in the international arms market. Indigenous capability expands as new technology flows in, thus strengthening a country's security position in the international system. Structural relations, as we shall see, also restricts the drive for self-sufficiency by reinforcing patterns of dependence on external sources of technology. At the agent level, the development of an indigenous arms business transforms the patterns of military relations between middle and dominant powers as the former reassess their relations with powerful allies. Subsequent chapters will discuss this dimension within the context of U.S-Brazilian military relations since World War II. The power of the weak, if such a term may be used, lies in exploiting the enabling resources in the international system, such as the proliferation of defense technology suppliers, so as to break the links of dependence with traditional suppliers. Whether they are successful in their affirmation of political independence depends on their ability to expand market interrelations beyond their local patterns of subservience.

Middle powers, in general, have found such a goal harder to reach than anticipated because of their continuing dependence on foreign sources of technology in a highly competitive environment.

That is not to say, however, that the "dependent development" analysts of the 1970s are vindicated. Rather, this chapter attempts to show that changes in military relations follow patterns associated with an increasingly interdependent market. Even dominant powers reassess their position in the market, as middle powers reshape their priorities. The paradox of national insecurity extends beyond the realm of middle power politics to include the great powers' response to an internationalized arms market. Such a response conditions and enables the national security goals of those nations that are struggling to break old patterns of dependence.

Middle powers participate in the international arms market both as suppliers and recipients. As exporters, they are critically linked to the competitive nature of the business, in which demand for sophisticated products prevails. Their limited ability to generate indigenous technology reinforces old (or creates new) sources of vulnerability. As recipients, they exploit the competitive market by striking advantageous arrangements to obtain foreign technology. While the transfer may be gained easily through pitting one supplier against another, the middle powers' eagerness to secure foreign supplies underscores the difficulty they find in attaining their goal of self-sufficiency. The paradox of national insecurity is revealed in their attempt to secure the establishment of an indigenous arms industry while

integrating into a global process, which ultimately drags its producers toward interdependent relations beyond its borders.

Before we explore the intricacies of the paradox of national insecurity, the first section of this chapter discusses the general limitations found in the use of data on the arms trade. Problems of measurement are critical, and outlining them in the beginning should serve as an early warning of the shortcomings the researcher faces. The second section provides a broad historical overview of structural changes in the modern arms market since its first inception in the mid-19th century. This section serves as the basis from which we can assess the enabling character of structure; namely, the existence of multiple suppliers willing to transfer defense technology to the Third World. The third section deals with the way middle powers have taken advantage of technology transfers so as to develop an indigenous capability. The last section assesses the dynamics of the paradox in relation to middle powers' participation in the international arms trade system.

The Measurement of Arms Trade

Ever since the systematic collection of military data began in the 1930s, researchers have faced the growing challenge of developing reliable data banks amid a burgeoning arms trade. After World War II, arms transfers became a critical component of the Cold War, and much emphasis was placed on detecting the direction and extent of the arms trade in remote regions of the world. The complexity of data sources deepened accordingly. Interest in

arms transfer data "coincide[d] not only with the behavioral revolution of the late 1960s but also with a surge in the use of arms transfers as an instrument of foreign policy."¹ More recently, as the internationalization of production reached the military sector, determining the market share of the world's arms exporters has become even more complicated. Stephanie G. Neuman suggests, "As weapons systems incorporate more foreign intellectual properties, components, and materials--tracing their origins and disaggregating their dollar value will become a futile task. The 'world tank' will soon follow the 'world car.'"²

The use of military data in any international security research is a delicate proposition. Although several respectable sources are available, we have to critically evaluate their limitations while incorporating dimensions such as technology transfers that may not be adequately addressed. Three well-known institutions provide standard data used both in media accounts and in scholarly research today. First, the U.S. Arms Control and Disarmament Agency (ACDA) has published annually since 1971 the World Military Expenditures and Arms Transfers. ACDA has some access to intelligence data, especially from the Defense Intelligence Agency. Recently, however, ACDA has relied on estimates from International Monetary Fund statistics, particularly for gross national product. As Nicole Ball argues, it is surprising that ACDA makes little use of budgetary documents given its U.S. government connections, which might facilitate contacts with U.S. embassies and consulates.³ Nevertheless, ACDA is one of the few sources that uses

primary intelligence data sources, while the others rely more heavily on secondary ones.

Second, the Stockholm International Peace Research Institute (SIPRI) publishes the yearbook World Armaments and Disarmament, which deals with a variety of issues ranging from Third World arms transfers to arms control between the superpowers. SIPRI relies on publicly available information only. Its main focus is on transfers of major weapons systems (aircraft, armored vehicles, missiles, battle tanks, and ships) and transfer agreements (the recipient nation, the specific weapon system, the type of weapon, the number of units ordered and produced for each year the system was in production, and the manufacture involved). SIPRI's data collection amounts to an "arms trade register," an idea first developed by the League of Nations after World War I.⁴

The third data source comes from the International Institute for Strategic Studies (IISS), which annually publishes The Military Balance. The IISS uses some confidential information, but its military expenditure series is drawn from data national governments make public. IISS publishes its data in local currency for only the most recent years. The Military Balance has been widely used in the popular media because of its simple presentation of data.

Aside from these three main sources, others cover more specific areas of concern for arms trade research. Jane's Publications (All the World's Aircraft, Armour and Artillery, Fighting Ships, Avionics), established for over 90

years, is an internationally acclaimed publisher of reference works on defense and transport. Revised annually by leading commentators and analysts, Jane's Yearbooks represent an accessible reference source, particularly for evaluating the foreign content of "indigenous" production. The United Nations' Statistical Yearbook and the International Monetary Fund's Government Finance Statistics Yearbook provide data on government expenditures, with a functional breakdown that includes the defense sector. These sources will be extensively used in subsequent chapters of this study, as the development of Brazil's arms industry is assessed.

SIPRI and ACDA have been the most reliable and widely quoted of all the sources in scholarly research, and they will be used in this chapter to demonstrate changes in market structures. Nevertheless, their limitations should be explained. There are two main types: those due to difficulties in operationalization and those derived from systemic changes. The first relates to the way military expenditures and arms transfers are defined and measured. National governments define military expenditures differently, which presents a problem for those conducting interstate comparisons.⁵ Since 1975, the United Nations has attempted to standardize military data reporting from its members, but with limited success.⁶

NATO countries have used similar definitions, but for those researchers dealing with non-NATO countries, reliance on a national government's own definitions creates discrepancies.⁷ These differences have become particularly evident as non-NATO countries have increased their

participation in the international arms trade system. There are also differences in the list of weapons the data sources themselves include in their transfer calculations. While SIPRI focuses mainly on major weapons systems, ACDA includes small weapons as well. Differences in sources and definitions lead to a wide range in data reporting, as Table 2-1 indicates.

A second operational limitation is verification. Both ACDA and SIPRI report the value of shipments and deliveries as their indicator of arms transfers, rather than agreements or financial transfers used to pay for weapons. While deliveries are easier to verify than financial flows and consummation of signed agreements, the governments can, and often do, withhold information on delivery of arms based on secret agreements. Expecting data manipulation by governments should be the rule rather than the exception. Michael Broska outlines a range of government considerations that may lead to additional data distortion.⁸ For instance, a government perceiving threat may have an interest in making military expenditure figures appear higher than they actually are so as to indicate military strength.

A third operational limitation is found in the development of time series. Each edition of sources tends to revise past figures as additional information becomes available.⁹ For a researcher interested in the nuances of fluctuations, revised numbers break the flow of time series. Arms transfer figures tend to increase as subsequent editions revise previous calculations. The need for revisions also reflects the ever-present possibility that certain transactions have escaped formal accounting provisions. Ball identifies

TABLE 2-1

Comparisons of Military Expenditures by Source, 1980
(\$ million, at current prices)

<u>Country</u>	<u>SIPRI^a</u>	<u>ACDA</u>	<u>ISS</u>
Argentina	2,896	1,976	3,060
Brazil	822	1,625	2,019
India	3,697	4,091	4,816
Israel	2,265	4,864	4,834
Mexico	584	537	1,076
South Korea	2,675	3,282	3,471
Turkey	1,615	1,772	2,306

^a SIPRI figures were converted by the author from national currency to dollar amounts using market exchange rates given in the International Monetary Fund, International Financial Statistics Yearbook 1985 (Washington, D.C.: IMF, 1985).

Sources: Stockholm International Peace Research Institute (SIPRI), World Armaments and Disarmament, SIPRI Yearbook 1985 (London: Taylor & Francis, 1985); U.S. Arms Control and Disarmament Agency (ACDA), World Military Expenditures and Arms Transfers, 1985 (Washington, D.C.: Government Printing Office, 1985); International Institute of Strategic Studies, The Military Balance, 1982-1983 (London: IISS, 1982).

several mechanisms for obscuring arms expenditures in the Third World: double bookkeeping, off-budget financing (special military funds independent of the national budget), highly aggregated budget categories, repayment of military-related debt, and manipulations of foreign exchange and trade statistics.¹⁰

While the operational limitations listed above can be monitored to some extent and compensated for with cross-data source analysis, the second type of limitation (systemic) is a reflection of the recent changing nature of the international arms trade system. First, the increased use of offsets--such as license production and technology transfers--in recent arms sales make it difficult to track the value and size of transfers. Arms transfer analyses continue to emphasize end items, while offset arrangements are becoming critical when one studies a country's arms export policy.¹¹

Governments tend to stay out of offset agreements, leaving the industry to negotiate them. Industry has proven even more reluctant than governments to publicize dollar amounts and details of these arrangements. This change in the way arms sales are conducted has led Edward J. Laurence and Joyce A. Mullen to suggest that "the traditional approach of assigning values to arms sales based on the announced contract is becoming obsolete."¹² While the government may announce the actual number of jet fighters being transferred to another country, the details about offsets included in the package have to be drawn from industry officials, sometimes a hopeless proposition.

The second limitation due to systemic change relates to the increased use of multinational production, particularly in Europe. While the transfer may be assigned to a particular country, a researcher has to take into account the political and economic impact these ventures have on all producers involved.¹³ Laurence and Mullen point to the case of the Tornado, an aircraft built by Panavia, a multinational company set up by the United Kingdom, Germany, and Italy.¹⁴ While the UK is in charge of marketing the aircraft, thus technically making it a UK transfer, the other two partners share in the profit. In recent Tornado sales to Saudi Arabia, Chancellor Helmut Kohl of Germany came under public criticism for sending weapons to an area of tension, even though it was officially a UK transfer.

A third source of limitation due to systemic change involves the expanding applicability of advanced technology in the armament business. As recipients grow in levels of industrial sophistication, data sources must pay closer attention to the changing importance of the "grey market."¹⁵ Systems, such as helicopters and computers, can be used for both military and civilian ends. Recent Third World attempts to import supercomputers, for instance, have met considerable opposition in the United States Congress because of their application in designing sophisticated weapons.¹⁶ Brazil has argued that the supercomputers are to be used in meteorological surveys intended to protect the Amazon.¹⁷ Although sales of supercomputers would not fall under the category of arms transfers, their application to indigenous

industries in new suppliers countries have a direct impact on the structure of the international arms trade system.

The Structure of the International Arms Market

The limitations due to systemic change, as discussed in the previous section, should give us a good indication of the significant restructuring of the international market over the decades. The armament industry as we know it today is the product of many slow changes, dating back to the wake of the Industrial Revolution. Creative entrepreneurs armed with the science of guns and explosives revolutionized European wars in the second half of the 19th century. The steel industry developed armor plates that drastically changed both the cannon and naval industries. With the end of the railroad boom in the mid-century, many entrepreneurs, such as Edward Vickers, founder of the British Vickers company, turned to the armament business.¹⁸ The Prussian Alfred Krupp became known as the "Cannon King" throughout the world.¹⁹ British entrepreneur William Armstrong dominated the armaments world along with Krupp in the second half of the century with the production of armor plates. American steel companies, such as Carnegie Steel of Pittsburgh, also benefited from the growing interest in the military application of the emerging heavy industries.

The early armament industry was truly internationalized in the sense that private entrepreneurs marketed their products to a global market under minimal state intervention via export control. Patriotism often worked as an

informal measure of control, but in the Austro-Prussian War of 1866, Krupp's weapons were used on both sides of the battlefield, despite protest from the Prussian government. Business was conducted on a personal basis with celebrated arms salesmen, such as Basil Zaharoff and James Rendel, traveling around the world and displaying their amazing inventions in international industrial exhibitions.

Toward the end of the century, with the arms industry growing in firepower and technological complexity, the state began to pay closer attention to the value of domestic producers. Bismarck's final step in the completion of German unity during the Franco-Prussian War in 1870 drew heavily on domestic private arms producers. In fact, the Prussian victory was the first industrialized war for Europe, and it established the worldwide reputation of Bismarck's main supplier, Krupp.²⁰ As the instruments of destruction progressively became more powerful, the state also began to assert itself because of the national security threat it represented for a domestic company to sell weapons to potential enemies. In 1909, for instance, Krupp offered to build eight warships a year for the British navy, but the Kaiser vetoed it.²¹

The horrors of World War I brought to light the extent to which these private entrepreneurs had proliferated an industry of destruction. Calls from all points of the globe demanded stricter controls over the private armament industry. The head of the Krupp firm, Gustav Krupp von Halbach, was even declared a war criminal after World War I.²² Nations tightened their

regulation of the industry's conduct in selling weapons abroad. Arms sales were no longer negotiated independently by private firms free of government control.²³ The Covenant of the League of Nations itself expressed "grave objection" to the private manufactures of armaments. The mood of pacifism swept the nations as the League in 1933 passed a resolution "that it is contrary to the public interest that the manufacture and sale of armaments should be carried out for private profit."²⁴ Disarmament became a popular subject as arms salesmen received harsh criticism as "merchants of death."²⁵ Hearings in both Washington and London in the mid-1930s pondered what was perceived as the cynical greed of the arms makers.

State efforts to control the private armament industry also stemmed from the former's interest in tapping sophisticated weapons that might give an advantage over its opponents. In turn, producers eagerly embraced the opportunity to monopolize the domestic market. In the 1930s, Krupp became the Nazi's most important supplier.

Nationalist fervor during World War II contributed to a close association between government and local arms entrepreneurs. In addition, the increasing sophistication of the weapons, particularly in the booming aircraft industry, necessitated deeper state involvement. The arms industry that emerged after World War II contained both elements of private entrepreneurship and state intervention. The 19th-century revolution in armaments had been one that favored heavy industry. In the 1940s, however, the war had changed direction to an alliance of pure science and light

industry. The old arms businesses, such as Vickers, were offshoots of the steel industry and played very little part.²⁶ The new arms industry, with vast research costs and long development programs, welcomed government involvement, particularly in the area of finance and research.

The state significantly increased its control over the domestic arms industry after the war, also reflecting the ensuing Cold War between the two superpowers. Because so much was at stake, including the very survival of each nation, the state closely scrutinized the movement of arms across its borders. In fact, U.S. rules governing commercial arms transfers reflected a tight control over the industry.²⁷ As James Everett Katz points out,²⁸

Before a commercial vendor or U.S. government employee can even begin to demonstrate or discuss selling weapons technology with a potential foreign buyer, he must receive permission from the State Department to do so. This only involves permission to try to market the equipment abroad, not to sell it.

Following the destruction of German military capability, Britain's arms industry shared a dominant role with the emerging United States. In the Cold War, British influence diminished, and the United States moved into the spotlight against the Soviet Union. The United States was particularly mindful of pursuing arms transfers as part of its containment strategy.²⁹ The Mutual Security Assistance Act of 1954 repealed and superseded the isolationist Neutrality Act of 1939.³⁰ The containment strategy included the transfer of some technology to close allies, particularly in Western Europe and the Far East, although the United States prized its technological

superiority in the world market.³¹ State control of the arms trade followed strict foreign policy guidelines. Unlike the "merchant of death" perception of the 1930s, the government's efforts to link national security interests with arms sales lent some degree of legitimacy to the business.

Arms transfers as an expression of national security strategy came to play a significant role as the Soviet Union entered the market in the 1950s. In 1955, Czechoslovakia announced it would supply Egypt with Soviet arms in return for cotton and dried dates. Soviet entry into Egypt marked a historic development in the history of arms sales: "It was the first time that Russia had sent major arms outside its own area of influence."³² Soviet entry in the arms trade led to a new monopoly between the superpowers, while the West European powers struggled to recover economically.

By the 1960s, as the U.S. position in the world economy weakened, arms sales gained a commercial dimension apart from their containment perspective. The Kennedy administration, for instance, was deeply worried about the deficit in the balance of payments, seen as a grave threat to the stability of the dollar in the international market. In 1961, the Pentagon set up the "International Logistics Negotiations," an organization in charge of selling arms overseas, thus moving the United States away from grants in arms transfer decisions to military sales. Its first head, Henry Kuss, resembled the old arms salesman. This time, however, it was the government urging companies to sell.³³ Most sales first went to members of NATO and Japan, as the United States countered the growing Soviet military influence in Europe

and Asia. Here, both commercial and foreign-policy requirements intertwined. Ironically, though, U.S. national security interests in Europe and Asia helped erode its competitive position in the world market in the long-run. In rebuilding these two regions after the war, the United States helped build modern factories, which became formidable competitors to aging U.S. industries.³⁴

In England, when the Labor government under Harold Wilson came to power in 1964, British arms sales increased under the argument that foreign currency was needed to allow additional arms imports. In January 1966, the new minister of defense, Denis Healy, announced to parliament his decision to appoint an arms salesman under the pragmatic pretense of winning back foreign currency:³⁵

While the Government attaches the highest importance to making progress in the field of arms control and disarmament, we must also take what practical steps we can to ensure that this country does not fail to secure its rightful share of this valuable commercial market.

The new post, the Head of Defense Sales, reflected the same concern that was emerging in an economically recovered Europe--keeping domestic arms industries commercially viable. Their small domestic market hampered their ability to reach economies of scale, therefore leading them to seek sales abroad. In addition, large sales allowed companies to recover some of the research and development costs in an increasingly expensive industry. As sophisticated arms producers emerged in France, West Germany, and Italy,

the international arms business became highly competitive. Although the development of arms industries in Europe followed national security calculations (political independence), their survival came to depend on commercial considerations. As Ulrich Albrecht points out, "In contrast to the global calculus of the superpowers, the European nations are regional powers with limited foreign policy objectives."³⁶ Therefore, arms exports can be structured along economic lines (reaching economies of scale, for instance) without the dominance of international political arguments, such as the search for clients and allies: "The flow of arms exports from European countries, as opposed to those from the superpowers, must be interpreted primarily as an outgrowth of economic and industrial policies, rather than of foreign policy."³⁷

A crowded European arms market created an eagerness to open markets in the Third World. In the first decade of the Cold War, the United States had controlled the Third World market by transferring its World War II-vintage surplus weapons through mutual security agreements. As Table 2-2 indicates, the United Kingdom lost some of its market share in the 1950s, while the Soviet Union increased its presence in the Third World market. What is peculiar about structural change during that period is the steady increase in France's market share. By the late 1960s, there were four main players (the US, USSR, UK, and France) playing a significant role in the Third World market. Both Germany and Italy showed only modest increases in market share.

TABLE 2-2

Exports of Major Weapons to the Third World by Supplier, 1950-1968
(US\$ million, at constant 1968 prices)

<u>Year</u>	<u>US</u>	<u>USSR</u>	<u>UK</u>	<u>France</u>	<u>FRG</u>	<u>Italy</u>
1950	50 (23.80)	20 (9.52)	60 (28.57)	-	-	5 (2.38)
1951	170 (54.83)	30 (9.67)	30 (9.67)	-	-	40 (12.90)
1952	130 (61.90)	20 (9.52)	40 (19.04)	-	-	-
1953	210 (38.89)	120 (22.22)	130 (24.07)	30 (5.55)	-	5 (0.92)
1954	300 (57.69)	-	130 (25.00)	50 (9.61)	5 (0.96)	-
1955	250 (42.37)	50 (8.47)	110 (18.64)	40 (6.78)	10 (1.69)	-
1956	270 (36.00)	80 (10.66)	120 (16.00)	120 (16.00)	5 (0.67)	20 (2.67)
1957	240 (32.43)	170 (22.97)	170 (22.97)	50 (6.75)	-	20 (2.70)
1958	630 (48.83)	120 (9.30)	240 (18.60)	100 (7.75)	10 (0.77)	20 (1.55)
1959	300 (38.46)	110 (14.10)	120 (15.38)	40 (5.12)	20 (2.56)	-
1960	480 (55.17)	110 (12.64)	160 (18.39)	20 (2.30)	20 (2.30)	10 (1.15)
1961	230 (30.66)	280 (37.33)	180 (24.00)	30 (4.00)	10 (1.33)	-
1962	200 (22.72)	500 (56.81)	60 (6.81)	70 (7.95)	5 (0.56)	-
1963	280 (32.94)	220 (25.88)	80 (9.41)	110 (12.94)	10 (1.17)	10 (1.17)
1964	240 (35.82)	180 (26.86)	80 (11.94)	80 (11.94)	30 (4.47)	10 (1.49)
1965	440 (46.31)	200 (21.05)	130 (13.68)	30 (3.15)	10 (1.05)	5 (0.52)
1966	260 (24.76)	390 (37.14)	120 (11.42)	110 (10.47)	110 (10.47)	10 (0.95)
1967	260 (21.13)	680 (55.28)	70 (5.69)	100 (8.13)	10 (0.81)	10 (0.81)
1968	300 (29.12)	370 (35.92)	170 (16.50)	120 (11.65)	10 (0.97)	20 (1.94)

Source: Stockholm International Peace Research Institute (SIPRI), World Armaments and Disarmament, SIPRI Yearbook 1969-1970 (London: Gerald Duckworth & Co. Ltd., 1970), 341.

Note: Excluding exports to North and South Vietnam. Parenthesis indicates percentage of total exports of major weapons to the Third World.

Latin America, in particular, benefited from U.S. transfers. In fact, in the 1950s the region consumed a high percentage of major weapons sent to the Third World, as Table 2-3 indicates. In the wake of decolonization and the growing conflict in the Middle East, other regions gained in importance. What was distinct about the 1960s was that arms sold to the Third World were increasingly more sophisticated, replacing World War II technology. Latin America, traditionally a U.S. sphere of influence, found increasing resistance from the United States to its acquisition of major sophisticated weapons. As late as 1968, no Latin American country possessed supersonic fighters. The French sale of supersonic Mirage 5 fighters in 1968 to the new defiant military junta in Peru drew strong protest from Washington. Many military leaders in Latin America, as Sampson argues, "were increasingly resentful of this [U.S.] restraint, and they looked to Europe for alternative suppliers."³⁸ In 1973, Peru placed another order for sophisticated weapons, this time for 200 Soviet T-55 tanks, the first major purchase of Soviet arms by any South American country.

In 1973, under pressure from American arms companies, the Nixon administration reversed the policy of restraint and allowed sales of U.S. sophisticated arms to Latin America. Nixon encouraged arms transfers in general as part of an attempt to improve balance of payments amid the oil shock. Nixon also had allowed some degree of technology transfer under his "Guam Declaration" of 1969, which encouraged the creation of regional powers to work as U.S. close "clients."³⁹ The so-called "Nixon Doctrine"

TABLE 2-3

Imports of Major Weapons by Central and South America, 1950-1968
(US\$ million, at constant 1968 prices)

<u>Year</u>	<u>Mexico and Central America</u>		<u>South America</u>	
		(%)		(%)
1950	5	(2.40)	40	(19.04)
1951	-	(-,-)	80	(25.80)
1952	20	(9.52)	20	(9.52)
1953	10	(1.85)	60	(11.11)
1954	10	(1.92)	110	(21.15)
1955	10	(1.69)	140	(23.72)
1956	10	(1.33)	90	(12.00)
1957	5	(0.67)	90	(12.16)
1958	10	(0.77)	110	(8.52)
1959	10	(1.28)	30	(3.84)
1960	30	(3.44)	120	(13.79)
1961	90	(12.00)	140	(18.66)
1962	150	(17.04)	50	(5.68)
1963	20	(2.35)	40	(4.70)
1964	20	(2.98)	20	(2.98)
1965	10	(1.05)	50	(5.26)
1966	10	(0.95)	70	(6.66)
1967	5	(0.40)	60	(4.87)
1968	-	(-,-)	80	(7.76)

Source: SIPRI, World Armaments and Disarmament, SIPRI Yearbook 1969-1970, 340.

Note: Parenthesis indicates percentage of total Third World imports of major weapons. The symbol "(-)" indicates nil, or less than \$2.5 million. Central America indicates 11 countries from Panama northwards up to the United States; South America indicates the rest of Latin America.

signaled U.S. defeat in Vietnam and the decline of U.S. direct interventionism in the Third World.

The creation of client/regional powers required some transfer of defense technology so as to boost domestic arms production capability. In addition, some U.S. administration officials argued that the decline in the domestic arms market following the Vietnam War made the export market all the more important for local producers.⁴⁰ In 1973, President Nixon invoked section 4 of the Foreign Military Sales Act, which allowed the president to waive congressional restrictions on the transfer of sophisticated weapons, in order to allow sales of Northrop F-5E supersonic fighters to Argentina, Brazil, Chile, Colombia, and Venezuela.⁴¹

The policy, while not as coherent in its application as its European counterpart, was short lived. In 1974, Congress adopted the "Nelson Amendment" to the Foreign Assistance Act, giving the legislative branch tighter control over major Foreign Military Sales transactions. Congress passed the Arms Export Control Act in 1976, "the first comprehensive piece of legislation to establish formal policy guidelines for the military sales program,"⁴² further tightening its control over arms sales.

Such an effort reflected the same disarmament concerns that were voiced in the 1930s as the "merchants of death" roamed around the world in search of profitable markets. This time, however, governments also had a commercial stake in the arms business. The oil crisis in the 1970s had propelled arms sales to an important position as a source of revenues,

particularly for the European countries. The Carter administration continued the assault on arms sales with policy directive (PD-13), calling arms sales an "exception" rather than an established mechanism of foreign policy. President Carter's failed attempt to establish an international regime to control arms transfers (CAT) during his presidency further strengthened the argument that the arms market had swelled beyond the control of even the world's main producer.

By the end of the 1970s, the United States had lost its commanding lead in major weapons sales to the Third World, while the four main European producers, along with the Soviet Union, had established themselves as serious competitors (see Table 2-4). Detente in the 1970s diluted the U.S. foreign-policy strategy of arms transfers while legitimizing the commercial reasoning behind sales abroad. After World War II, the Soviet-American monopoly gave recipients little control over the arms flow. With detente and the oil crisis in the 1970s, European suppliers turned to the Third World for markets, thus causing a significant breakdown of U.S. and Soviet control over sophisticated weaponry flows. As Table 2-5 indicates, the arms export market share of major producers underwent a significant change by the early 1980s. The "other" category in the table, in particular, highlights the entry of non-traditional producers, such as Third World middle powers, into the market.

Decolonization in the 1960s had an immediate impact on the demand side of the arms market, as the new nations attempted to exert control over

TABLE 2-4

Exports of Major Weapons to the Third World by Supplier, 1969-1989
(US\$ billion, at constant 1985 prices)

<u>Year</u>	<u>US</u>	<u>USSR</u>	<u>UK</u>	<u>France</u>	<u>FRG</u>	<u>Italy</u>
1969	3.11 (43.07)	2.16 (29.88)	1.03 (14.34)	.27 (3.78)	.05 (0.77)	.08 (1.17)
1970	3.55 (38.50)	4.12 (44.68)	.47 (5.11)	.69 (7.51)	-	.03 (0.40)
1971	3.83 (32.59)	4.96 (42.26)	1.21 (10.31)	.67 (5.76)	.08 (0.73)	.09 (0.80)
1972	5.92 (39.43)	5.87 (39.10)	1.19 (7.95)	.78 (5.23)	.11 (0.71)	.13 (0.91)
1973	6.26 (36.90)	7.02 (41.38)	1.30 (7.70)	1.64 (9.68)	-	.15 (0.87)
1974	4.48 (34.51)	4.73 (36.45)	1.07 (8.24)	1.26 (9.72)	.40 (3.14)	.26 (2.06)
1975	7.07 (52.12)	2.87 (21.17)	1.19 (8.81)	1.14 (8.42)	.26 (1.92)	.14 (1.02)
1976	7.25 (45.58)	4.87 (30.61)	.83 (5.23)	1.39 (8.78)	.16 (1.04)	.16 (1.02)
1977	9.72 (44.02)	7.23 (32.75)	1.64 (7.43)	2.15 (9.76)	.20 (0.92)	.29 (1.33)
1978	6.85 (31.24)	9.06 (41.33)	1.20 (5.47)	2.41 (10.98)	.25 (1.17)	.32 (1.47)
1979	4.02 (19.02)	9.78 (46.31)	.77 (3.65)	3.26 (15.44)	.16 (0.76)	.97 (4.61)
1980	5.71 (28.36)	8.59 (42.66)	.70 (3.49)	2.35 (11.70)	.28 (1.40)	.65 (3.24)
1981	6.27 (28.30)	7.14 (32.20)	1.16 (5.23)	3.13 (14.13)	.93 (4.19)	1.33 (6.00)
1982	7.19 (30.67)	7.11 (30.33)	1.67 (7.12)	2.89 (12.33)	.32 (1.36)	1.34 (5.74)
1983	6.25 (27.63)	6.89 (30.43)	.58 (2.55)	2.84 (12.55)	1.17 (5.19)	.97 (4.28)
1984	4.98 (21.70)	7.31 (31.84)	1.13 (4.96)	3.60 (15.69)	1.83 (7.99)	.81 (3.53)
1985	4.11 (20.80)	7.75 (39.22)	.94 (4.77)	3.78 (19.14)	.52 (2.63)	.54 (2.72)
1986	4.92 (20.90)	10.32 (43.32)	1.02 (4.32)	3.35 (14.24)	.65 (2.75)	.39 (1.68)
1987	6.27 (23.95)	10.76 (41.11)	1.53 (5.84)	2.51 (9.62)	.25 (0.96)	.32 (1.22)
1988	3.65 (18.94)	8.23 (42.78)	1.16 (6.05)	1.31 (6.81)	.48 (2.49)	.36 (1.86)
1989	2.52 (15.50)	8.51 (52.23)	.99 (6.09)	1.52 (9.36)	.15 (0.91)	.03 (0.18)

Source: Stockholm International Peace Research Institute (SIPRI), World Armaments and Disarmament, SIPRI Yearbook 1988 (New York: Oxford University Press, 1988), 204-5; Stockholm International Peace Research Institute (SIPRI), World Armaments and Disarmament, SIPRI Yearbook 1990 (New York: Oxford University Press, 1990), 252-3.

Note: The values include licensed production of major weapons in Third World countries. The symbol "--" indicates nil. Parenthesis indicates percentage of total exports of major weapons to the Third World.

TABLE 2-5
Arms Export Market Share, 1963-1984
(Percentage)

<u>Year</u>	<u>US</u>	<u>Non-US NATO</u>	<u>USSR</u>	<u>Non- USSR Pact</u>	<u>Others</u>
1963	36.9	18.6	37.6	4.5	2.4
1964	35.3	20.3	34.5	8.3	1.7
1965	39.1	11.8	34.2	8.2	6.7
1966	40.6	12.0	35.6	6.8	4.9
1967	44.1	7.0	38.0	6.9	4.0
1968	50.3	11.5	29.8	4.8	3.6
1969	59.7	13.2	18.8	4.7	3.6
1970	53.3	12.0	25.8	4.6	4.2
1971	53.5	11.3	25.2	4.6	5.4
1972	38.4	19.1	27.9	4.4	10.2
1973	39.4	14.7	38.7	4.2	2.9
1974	41.0	15.8	33.6	5.7	3.8
1975	38.0	16.6	31.0	6.4	8.0
1976	35.3	19.8	31.7	5.4	7.7
1977	34.0	18.8	33.5	6.5	7.2
1978	27.9	23.4	33.1	8.0	7.5
1979	21.9	18.4	45.6	6.5	7.7
1980	22.0	25.4	39.3	5.3	8.0
1981	23.5	29.0	30.7	6.0	10.8
1982	24.4	22.9	29.6	7.9	15.2
1983	28.4	25.8	26.2	6.6	13.0
1984	22.0	24.3	26.9	8.0	18.8

Source: ACDA, World Military Expenditures and Arms Transfers, 1985, 20.

their territory.⁴³ The oil shocks in the 1970s also had the dubious benefit of creating a surge in arms demand from oil exporters in the Middle East. These factors, matched with the growing European interest in opening new markets for its weapons exports, thus explain the sharp upward thrust in arms sales in the 1970s.⁴⁴

The importance of the Middle Eastern arms market, however, should be placed into perspective. As Table 2-6 indicates, while OPEC countries in the 1970s significantly increased their share of total world arms imports, during the same period, they reduced their market share of the Third World imports of major weapons. In fact, South America managed through heavy borrowing to increase its share of major weapons imports, as shown in Table 2-7. Latin America became an avid consumer of European weapons, as the United States lost its grip on the region's import policy.

The importance of the Third World market, along with the proliferation of suppliers in Europe, moved the trade from a "supplier's market" to a "buyer's market," at least as far as recipients' latitude to dictate the terms of the exchange. Rather than being constrained to accept political conditions attached to arms transfers, recipients began to include in the sale agreements technology transfer requirements so as to stimulate indigenous arms production.⁴⁵ In addition, European suppliers became notorious for their generous technology transfer offers without strict political guidelines, such as the prohibition of exports to third parties. Through the production of arms for exports, European countries recouped R&D costs.

TABLE 2-6

Arms Imports—Market Shares, 1973-83
(US\$ billion)

<u>Year</u>	<u>OPEC Countries</u> ^a	<u>Middle East</u> ^b
1973	3.177 (11.85)	10.269 (60.49)
1974	4.562 (20.61)	6.760 (52.07)
1975	5.168 (24.52)	7.248 (53.40)
1976	8.199 (31.37)	7.398 (46.46)
1977	10.899 (37.55)	9.833 (44.52)
1978	11.649 (36.42)	7.605 (34.67)
1979	11.152 (31.86)	6.003 (28.41)
1980	9.228 (26.75)	8.319 (41.31)
1981	13.923 (35.89)	8.966 (40.43)
1982	14.410 (37.46)	11.522 (49.14)
1983	11.963 (34.07)	11.293 (49.88)

^a Total arms imports (including major weapons) in constant 1982 prices; market share in parenthesis.

^b Imports of major weapons in constant 1985 prices; market share in parenthesis.

Sources: For 'OPEC' figures, see ACDA, World Military Expenditures and Arms Transfers, 1985, 89-93; for 'Middle East' figures, see SIPRI, World Armaments and Disarmament, SIPRI Yearbook 1988, 202-3.

TABLE 2-7

Imports of Major Weapons by Central and South America, 1970-1989
(US\$ million, at constant 1985 prices)

<u>Year</u>	<u>Central America</u>	(%)	<u>South America</u>	(%)
1970	185	(1.90)	285	(2.93)
1971	135	(1.06)	786	(6.21)
1972	261	(1.54)	1,093	(6.47)
1973	309	(1.79)	2,354	(13.63)
1974	299	(2.21)	1,338	(9.92)
1975	204	(1.43)	1,600	(11.25)
1976	234	(1.51)	1,922	(12.41)
1977	557	(2.47)	2,836	(12.61)
1978	268	(1.17)	2,335	(10.27)
1979	295	(1.32)	1,635	(7.34)
1980	187	(0.88)	2,137	(10.08)
1981	657	(2.74)	3,215	(13.44)
1982	1,092	(4.51)	2,509	(10.37)
1983	901	(3.79)	2,878	(12.11)
1984	599	(2.61)	2,980	(13.00)
1985	659	(3.20)	1,219	(5.92)
1986	618	(2.62)	1,124	(4.77)
1987	371	(1.41)	1,655	(6.32)
1988	203	(1.05)	824	(4.28)
1989	300	(1.84)	963	(5.90)

Source: SIPRI, World Armaments and Disarmament, SIPRI Yearbook 1990, 250-1.

Note: The values include licensed production of major weapons in Third World countries. Parenthesis indicates market share (percentage of total Third World imports of major weapons). Central America indicates all countries from Panama northwards up to the United States; South America indicates the rest of Latin America.

For some Third World countries with considerable industrial infrastructure, this "buyer's market" offered an enticing opportunity to establish a sophisticated arms industry which would reduce its dependence on foreign suppliers. The next section details the efforts of many of those Third World countries to develop indigenous arms production. It is important to note that their attempts came at a time when the Cold War showed signs of weakening and the superpowers had lost control over the flow of sophisticated technology.

As a result, the market had become once again truly internationalized. Even during the Reagan administration, which reversed many of its predecessors' arms sales policies, the United States lost more share of the Third World market, while Europe and the Soviet Union sped ahead (see Tables 2-4 and 2-5). The increasingly competitive international arms market has led some analysts to refer to the phenomenon as the "commercialization" of the arms trade. Ferrari, Madrid and Knopf summarize the new dynamic this way:⁴⁶

In order to win contracts, nearly all suppliers have been offering some of their most sophisticated equipment along with extensive technology sharing and logistic support, cut-rate financing, and offset arrangements that sometimes exceed the purchase price. Suppliers also have been increasingly willing to sell to any nation, with the result that nations widely censored for human rights violations or engaged in protracted wars have had relatively little trouble obtaining sophisticated weaponry. Similarly, political and ideological differences among sovereign nations have not prevented arms transactions between them.

After World War II, two superpowers dominated the "seller's market," as the mode of exchange for middle powers was primarily ideological (capitalism versus communism). In the 1960s, such an arrangement began to break down in Third World regions as European companies began to offer sophisticated weapons with no attached political strings. Such was the case of the French sale of jetfighters to Peru in 1968 as mentioned earlier. In the "buyer's market" of the 1970s and 1980s, the number of suppliers multiplied, although the two superpowers continued to play a dominant role in the market.

What made this structure different from the previous one was that the superpowers no longer had a monopoly on the flow of advanced arms technology. As Michael C. Sekora, a former official of the Defense Intelligence Agency, said: "It used to be that the U.S. was the storehouse for all technology. Now advanced technologies are ending up in third world countries. It's no longer simple to control."⁴⁷

In the seller's market, a bipolar order constrained aspiring powers to a bilateral dependence under an either/or allegiance proposition. Nevertheless, competition between the two superpowers allowed aspiring powers to strike favorable arms transfers deals which led to increased hardware capability in the Third World. Both superpowers encouraged an arms race in the Third World, leading to an increased hardware capability for many industrially weak nations. The superpowers, however, transferred little technology.

As the world economy expanded and new suppliers emerged, aspiring powers freed themselves from traditional military relationships and sought new ones. Nevertheless, they continued to experience dependence not on specific suppliers but on foreign supplies (e.g., capital, technology). The proliferation of suppliers allowed aspiring arms producers to use technology transfers as a bargaining strategy. Buyers often required some degree of technology transfer with each purchase of hardware. Sellers had little choice in a buyer's market. The breakdown in role rigidity was particularly evident as Third World middle powers entered the arms export business in the 1970s and became themselves part of the chain in the process of technological diffusion.

The downturn in the global economy during the early 1970s with the oil crisis and increasing fiscal hardships suffered by major and aspiring powers alike heightened the importance of competitiveness in the international market. This conjunctural dimension brought two results to the international arms market. On the one hand, the United States, as a major technology supplier, began to explicitly link cooperative defense-sharing issues with economic issues, including trade balances.⁴⁸ On the other hand, the increasing cost of research and development brought companies together in joint ventures (particularly between Third World middle powers and European producers), such as the Brazilian participation in the development of the AMX jet fighter with two Italian companies. While the former shift has restricted aspiring powers' options, the latter has opened new avenues

for the production of sophisticated armaments--and consequently, further advancements in "indigenous" production. By the mid-1970s, as some of these Third World arms producers entered the arms export market, there were additional signs that the commercial motive had overtaken foreign-policy objectives in the sale of armaments. Countries such as Brazil and Israel became famous for their low-cost weapons, many of them ideal for combat in the Third World. By the early to mid-1980s, the popular media gave wide coverage to the emergence of Brazil's arms exports.⁴⁹

In the early 1980s, several factors contributed to a decline in the arms market, which considerably stiffened competition and jeopardized the commercial position of middle powers as arms suppliers. The oil glut in the early 1980s and the debt crisis reduced Third World demand for weapons due primarily to the scarcity of foreign exchange. Klare also attributes the decline in new military orders to the saturation of many Third World arms inventories, following the buying binge of the 1970s.⁵⁰ In addition, some of the decline could be explained in relation to indigenous arms production in the Third World.

The thawing of the Cold War in the late 1980s after Gorbachev had solidified its power in the Soviet Union also meant domestic defense budget constraints in the United States, which made the American defense industry even more eager to sell abroad. Concern about the mounting U.S. trade deficit bolstered the arguments of proponents of U.S. arms exports, while further crowding the market with potential sellers. As a representative of an

American arms exporting company bluntly surveyed the arms market, "We're all down now to nibbling crumbs. . . . The damn oil boom has gone, and there's not much money anymore. The world in general is bankrupt."⁵¹

Currently a lively debate rages in the arms trade literature over the U.S. market position. Stephanie G. Neuman promotes the view that despite the post-World War II proliferation of suppliers, the United States continues to dominate the market. She adds: "contraction [of the arms market in the 1980s] has exposed the relative weaknesses of other supplier states--often concealed in a rapidly expanding buyer's market--and highlighted the size and strength of the U.S. economy with its potential for increased influence in the world's arms trade."⁵² While Neuman offers a compelling argument for continuing U.S. economic might, she does not carefully evaluate the internal dynamics that post-war market restructuring has had in the United States.

Faced with the same demand contraction at home, U.S. arms manufacturers are reevaluating their position in the global market. U.S. export control policy has been at the center stage of this debate. Both manufacturers and policy-makers have attempted to adjust their position to the new post-Cold War environment. Although the Reagan administration presided over an increase in arms exports to the Third World, technology exports controls, particularly to the East, were tightened. During the Reagan administration, as the United States experienced a deteriorating commercial position, many loudly questioned the principles underlying export control. Much of the restricted technology was available from other Western

European countries. The argument, therefore, went that restricting U.S. technology exports only hurt U.S. companies' competitive position in the international market, given the emergence of a buyer's market. Some analysts have argued that attempting to control technology is a waste of time and energy because it attempts the impossible task of slowing down other producers: "What one has to do is to run faster."⁵³

A 1987 National Academy of Sciences study recommended that the Department of Commerce be placed in charge of technology export licensing rather than the Department of Defense (DoD).⁵⁴ Because the United States has a market advantage in advanced technology, the study found that restricting its flow abroad only imperils its competitive performance. Obviously, the national security dilemma rests on the fact that much of the United States' advanced technology has military application. In fact, defense contractors have been complaining that DoD is discouraging commercial arms sales.⁵⁵

The decline of the Cold War has created its own dynamic in the superpowers' position in the arms market. For one, U.S. arms contractors are faced with the grim prospect of a shrinking domestic market. Long insulated from the whims of the international market, they are now faced with the difficult question of developing a new business strategy for the 1990s. Defense conversion to civilian production is a possibility many analysts find "an empty promise," although some, such as Rockwell International Corporation, have successfully diversified production in the 1980s.⁵⁶ Using

foreign sales to compensate for lower domestic demand does not seem promising either because the growth rate of the global arms market seems insufficient to accommodate all producers. Richard F. Grimmett, a defense specialist at the Congressional Research Service, has asked: "Where is the market for arms suppliers? If the cold war continues to wind down, you will see increasing competition over a much more reduced pie."⁵⁷

In this new environment, some analysts have expressed serious reservations about the United States' ability to monopolize technology. Klare, for instance, argues that these recent changes suggest a "fundamental restructuring" of the international arms traffic:⁵⁸

in the 1970s this traffic was dominated by a handful of major suppliers that generally sold finished military goods--including large numbers of sophisticated, front-line systems--to avid customers in the Third World. Today, we see a much more heterogeneous trade involving a larger number of suppliers offering a wider assortment of products, a more cautious pool of buyers, and a growing emphasis on technology transfers, modification and upgrade kits, logistical gear and other non-weapons items.

In 1987, the United States, Canada, the United Kingdom, France, West Germany, Italy, and Japan signed the nonbinding Missile Technology Control Regime to keep the Third World from developing ballistic missiles.⁵⁹ But compliance with regime restrictions has proven elusive.⁶⁰ As Aviation Week & Space Technology reports,⁶¹

In a recent solicitation for satellite launch services, Brazil required bidders to present a detailed proposal for export of liquid-state rocket motors. The French, party to the restrictions, nevertheless seized the edge in the competition

by offering Brazil their Ariane Viking motor. McDonnell Douglas is prohibited by U.S. law from going that far with its Delta 2. But it hopes to win with a counteroffer, approved by the State Dept., which would permit Brazilian engineers to learn about propulsion by taking part in the space station project.

In essence, competition among suppliers (regardless of geographical origin) drives the transfer of technology, even with the opposition of the state.

Klare suggests three consequences of this restructuring directly related to the middle-powers' ability to compete in the arms market.⁶² First, he points out the sharp increase in the intensity of supply-side competition. As new exporters on the bloc, middle powers increasingly have to use the latest techniques in marketing and advertising to secure new orders, a difficult task given their limited budgets. Second, with increased competition, many well-established suppliers, particularly in Western Europe, have relaxed arms export controls. Third, a "buyers' market" has endowed recipients with greater leverage when negotiating terms for new purchases. One, should not forget, however, that middle powers play both roles as recipients and suppliers. Therefore, although they may benefit from import credit allowances and concessions such as offset agreements, they must also be prepared to offer them when in the supplier role.

The fundamental characteristic of the new arms market is the increasing use of technology transfers as a marketing device for suppliers. As argued earlier, the evolving structure has benefited middle powers in their efforts to develop an indigenous arms industry. The remainder of this

section will provide a more detailed account of the use of offsets in the arms business.

Technology is identified not only as a process, but also as a national asset. As such, it becomes a critical part of economic policy-making with far-reaching implications for world trade.⁶³ Those nations with high technological capabilities enjoy greater prestige in the international arena, while those that fall behind find themselves downgraded in the power hierarchy. While efforts to develop indigenous technology top the development agenda of many Third World countries, technology transfers, or offset agreements, are frequently used to close the North-South gap.

Offset requirements have become a "necessary evil" or an "inescapable fact of life" in today's arms business, an agreement that exporting companies do not enter into by choice.⁶⁴ So why do transnational companies actively participate in the diffusion of arms technology? Ball outlines four possible explanations.⁶⁵ First, arms producers seek to expand or protect their markets in the Third World. Because competition between suppliers of technology is often quite fierce, offset agreements are sometimes the only way they can make a sale. As a U.S. industry official argued, companies tend to take the short-sighted view of business. Because the immediate pressure is orders, sales and profits (keeping the shareholders happy), if sale opportunities to the Third World come along, companies will probably "jump at it, because if they don't, their competitors will."⁶⁶ Another industry official place the dilemma more directly:⁶⁷

The transfer of technology issue is somewhat overrated in the minds of our politicians. I certainly am aware of the possibility that we can transfer technology to a foreign company which then can use it against us, either militarily or economically, but if we don't supply that technology I think somebody else will. I believe we are just cutting our own noses to deny helping other countries in developing their technology, even if it does mean transferring some of ours to them.

One of the strategies used to transfer technology is by setting up cooperative arrangements. During the 1970s, the most important foreign partner for Brazil's Embraer was the U.S. company, Piper. While Piper used Embraer to enter Brazil and export markets in third countries, Embraer extensively subcontracts for the U.S. producer. "The program," as Tuomi and Väyrynen correctly point out, "successively increases the domestic content of Embraer's products and hence makes the Brazilian aircraft industry more self-sufficient."⁶⁸

Second, the transfer of technology may be an effective way to evade restrictions imposed by one's own government on arms exports. Subsidiaries in middle powers often bypass arms exports restrictions imposed in the company's home country. Some analysts have referred to this process as the development of a "worldwide production network," in which a company takes advantage of its network of subsidiaries to bypass restrictions from its home country. Despite the U.S. embargo against Turkey in 1975, Northrop continued to supply Turkey with spare parts produced in Taiwan.⁶⁹

Third, Ball argues that relatively cheap labor provides an attractive alternative for foreign investment, particularly in the production of components, which includes some degree of technology transfer. Finally, a fourth explanation as to why offset agreements come to play a major part in the arms market lies in an attempt by the supplier's government to gain political influence in the recipient nation. The United States transferred much technology to NATO countries as part of its effort to standardize the weapons, given some hesitation by European governments to readily accept U.S. political influence in production decision-making. The U.S. transfer of technology to Western Europe also followed the containment strategy, which envisaged an economically recovered Europe under the U.S. sphere of influence.

There are two types of offsets used in international transactions.⁷⁰ "Direct" offsets include the production of some equipment in the recipient country as a way of offsetting the cost of importing the weapons. The agreement may consist of co-production, licensed production, subcontracted production, or joint venture. The most widely used form of direct offsets by the United States has been co-production, involving a government-to-government agreement to transfer technical data for the production of defense items overseas. Licensed production is usually a firm-to-firm or firm-to-government agreement for the production of components, or even a final weapon system.⁷¹

"Indirect" offsets consist of a strategy used by weapons supplier to raise cash on behalf of a potential arms buyer. Because the prospective buyer does not have the cash to purchase weapons, the arms producer agrees to market other products (e.g., coffee, beans, shoes) as a way of raising the necessary cash for the purchase of weapons.⁷² Grant T. Hammond argues that in some cases U.S. contractors are becoming international trading companies, supplying a diverse list of products (from Brazilian shoes to Yugoslavian ham) as an effort to raise cash for the arms purchasers.⁷³ While indirect offsets have become an important part of the arms business, this study will concentrate on the direct form of offsets since they are at the heart of middle powers' industrialization and national-security strategy.

Offsets became an important business strategy after World War II, as European powers faced foreign exchange shortages.⁷⁴ Despite Europe's economic recovery, offsets continued to be widely used in the booming arms industry. U.S. technology was eagerly sought. Western European producers took advantage of Cold War politics to secure the latest in defense technology. Probably the best known offset arrangement involving U.S. and European producers consisted of the 1975 Memorandum of Understanding among several NATO countries for the co-production of F-16 fighter aircraft.⁷⁵ Although the United States welcomed this agreement and others as part of NATO standardization efforts, many European countries have complained about the United States' reluctance to release technology even to allies, particularly after European economic recovery. Klare summarizes well

the wavering uncertainty of U.S. policy: "On the one hand, U.S. leaders sought to promote political cohesion and military standardization within NATO through collaborative arms programs; on the other hand, they wished to prevent further erosion of America's technological leadership through curbs on technology exports."⁷⁶ Considering that many of the European producers became fierce competitors in the international market, the United States' reluctance should not be surprising.

Although demand for offsets has come primarily from European countries in their attempt to acquire U.S. defense technology,⁷⁷ middle powers have followed similar strategies. Many of the Asian middle powers, for instance, are known for their tough bargaining in the acquisition of foreign technology. South Korea, in particular, requires that on defense import purchases of over \$1 million at least 50 percent be offsets, with a minimum 20 percent in the form of direct offsets with technology transfer.⁷⁸ In the early 1970s, when the Nixon administration approved the sale to Brazil of 42 F-5E fighters, Brazilian officials did not accept the deal until it was agreed that some of the subsystems in the supersonic fighter would be produced in Brazil.⁷⁹

Middle powers have found Europe a rather accessible source of technology because European producers are much more dependent on the export market than U.S. suppliers. Therefore, European producers are easy prey in a predominantly buyer's market. For instance, Argentina's light tank named TAM (Tanque Argentino Mediano) drew on a modified version of

Germany's armored personnel carrier Marder. Argentina also copied the French tank AMX-13 as part of technology transfer agreements.⁸⁰

Third World arms producers play a difficult role in the market as both suppliers and recipients. On the one hand, they have benefited from a buyer's market because of the resultant technology import opportunities. On the other hand, increasing reliance on arms exports for the viability of their domestic production results in two main dilemmas: (1) the need for the latest technology becomes crucial if the industry is to compete internationally; and (2) the domestic arms industry is closely tied to fluctuations in the international market. Many Third World arms producers have suffered severely from the contraction of the market in the 1980s. In 1989, Iraq defaulted on weapons bills from two Brazilian companies, a rocket maker (Avibrás Aeroespacial S.A.) and a tank manufacturer (Engesa), leading them to file for protection from their creditors in the following year.⁸¹

The governments of Third World middle powers are ambivalent about the transfer of technology from advanced industrial centers. Offsets promote domestic economic transformation and improve the competitive position of national companies in the international market. The Brazilian case is one in point. Charles Smith, for instance, points out that one of the reasons that foreign direct investment rose so rapidly over the 1969-74 period in Brazil was that in order to compete in export markets, Brazilian companies required high-quality technology.⁸² On the other hand, reliance on foreign technology is part of a continuing pattern of dependence that many national

security policy-makers find difficult to accept. A common solution is to diversify the sources of technology so as to avoid excessive concentration on a single supplier. Brazil's First Basic Plan for Scientific and Technological Development, presented in 1973, addressed the issue of diversification while seeking to strengthen the capacity for internal technological innovation.⁸³

Such an attempt, however, is marred by the ever-present fact that the pace of technological transformation is beyond domestic control. Technology remains an exogenous factor in the local industry's position in the international market. For any nation that aspires political independence from dominant players, such as Brazil does in relation to the United States, this systemic pattern of dependence places restrictions on how far it may gravitate outside spheres of influence. A leading technology supplier with well-defined foreign-policy interests commands a strong gravitational pull that is difficult to escape.

That pull has become particularly strong in the 1980s, as the shrinking market has heightened competition. As Neuman points out,⁸⁴

Faced with the challenge of keeping pace with rapid technological change, declining demand, and the need to achieve economies of scale in order to maintain their own defense industries, arms-producing countries with relatively small domestic markets now look to the United States as a source of technological innovation and as a customer for their military and civilian wares.

For a country like Brazil, which seeks to escape the U.S. orbit, such a prospect of dependence is a dire one.

Military Industrialization: "Catch-Up" Mercantilism?

While the previous section detailed the evolution of the arms trade as a structural phenomenon, this section will investigate the national security-interests of middle powers within that structural context. Third World arms production has expanded at an accelerating rate since the 1960s, reaching higher levels of sophistication. The number of Third World arms producers rose from six states in the early 1950s to 27 in 1986.⁸⁵ Herbert Wulf has registered some of the most advanced projects in several Third World countries, which reveal a growing proliferation of capability, as Table 2-8 indicates. Given their fast paced military industrialization in recent decades, it is imperative that we understand the underlying dynamic driving their effort at arms production.

As discussed in Chapter 1, self-reliance is a fundamental prerogative in defining the pursuit of power and national security. Buzan suggests, "Any state seeking to attain a prominent position in the international power hierarchy needs its own arms industry, both as a source of status and as a manifestation of capability."⁸⁶ Nicole Ball also adds that domestic weapons production capacity demonstrates several aspects of a nation's participation in an anarchic system.⁸⁷ First, it can be seen as an expression of national sovereignty, "tangible evidence that a country intends to defend its independence." Second, it demonstrates that a country controls its own affairs. Third, it shows that the country is "well along the path to modernization," given the use of some of the most sophisticated technology

TABLE 2-8

Weapons Systems Production in the Third World
(Number of countries)

<u>Year</u> ^a	<u>Fighter Aircraft</u>	<u>Missiles</u>	<u>Battle Tanks</u>
1967	1	1	1
1968	2	2	1
1969	2	2	1
1970	2	2	1
1971	3	2	1
1972	4	2	1
1973	4	2	1
1974	5	2	1
1975	6	2	1
1976	6	4	1
1977	6	4	2
1978	6	5	2
1979	6	6	3
1980	7	6	4
1981	6	6	4
1982	6	6	4
1983	6	6	5
1984	7	6	5

^a Years are for actual production (excluding assembly); fighter aircraft include Counter-Insurgency Action (COIN) roles, but exclude trainers.

Source: Herbert Wulf, "Arms Production in the Third World," World Armaments and Disarmament, SIPRI Yearbook 1985 (London: Taylor & Francis, 1985), 334-5.

Note: The sample of advanced Third World countries includes the following: India, South Africa, Brazil, Israel, Taiwan, Argentina, South Korea, and Chile.

in arms production. Fourth, and most crucial in national security policy making, domestic production ensures vital supplies in time of war.

While these reasons seem self-evident when dealing with major powers and their participation in the international system, many overlook similar interests found in the national security policies of Third World middle powers. In fact, it could be argued that the importance of such interests is heightened in the middle powers' policy process because their participation in the international economic system is transformed when these aspiring powers deepen their industrialization.

In evaluating the national-security context of Third World arms production, one has to ask the basic question as to why some embark on arms production, while others do not. In general, answers fall under either the economic or the military/political camp. Much of the economic analyses have centered on the indigenous industrial characteristics that foster arms production. As justification for domestic production, Ball points out two economic objectives: to spur industrialization and to reduce the financial costs associated with the use of foreign exchange to procure weapons abroad. There is always the possibility that the creation of a defense-industrial sector will lead to spillover of sophisticated technology into the civilian sector.⁸⁸

By the same token, the civil sector is also viewed as critical if a nation is to develop an arms industry. In other words, the two sectors are closely interrelated. Herbert Wulf identified six key industries, which he calls "relevant industries," as providing the ability for arms production: iron and

steel, non-ferrous metals, metal products, machinery (non-electrical), electrical machinery, and transportation equipment. He also used a second indicator, "manpower base," based on two sets of data: employees or persons engaged in the "relevant industries," and the total number of scientists, engineers and technicians involved in research and development (or R&D).⁸⁹ From these two indicators, Wulf ranked Third World countries according to their capacity to support arms industries. Many middle powers fell among the top ten with a capacity for diversified arms production: India (ranked number 1), Brazil (2), Mexico (5), Argentina (6), Taiwan (7), and South Korea (8). Others fell under the category of those with the capacity for assembly of arms: Chile (16), Venezuela (17), Thailand (20), Singapore (22), and Peru (25).

Among the factors facilitating arms production, Stephanie Neuman has identified some basic characteristics of the largest defense producers: large geographic areas, gross national products, population, and military expenditures.⁹⁰ Robert E. Looney, in a statistical analysis of producers and non-producers based on Neuman's list of countries, has found that the main factor differentiating the two groups is access to relatively large amounts of foreign exchange.⁹¹

These analyses center on the economic environments conducive to indigenous Third World arms production. Looney himself argues that his results "strongly suggest that if countries desiring to produce arms have relatively poor access to foreign exchange, they are unlikely to be able to

justify either the creation or maintenance of indigenous arms production."⁹² Looney's finding is important in assessing the critical role of international capital in integrating local markets to global processes in an area that is usually considered part of a drive toward self-sufficiency. Left unresolved in his analysis, however, is why countries come to "desire" (to use his own word choice) producing arms rather than simply importing the final product.

The answer to this question is intrinsically political. The top five countries on Looney's list, for instance, display a wide variety of military-industrial paths. India has faced an immediate territorial threat from neighbors since independence in 1947, which helps explain its preoccupation with self-sufficiency. India gave priority to an indigenous arms industry particularly after its humiliating war against China in 1962. Brazil, in its drive under military rule (1964-85) toward great-power status, placed a strong emphasis on military power as a source of prestige and political independence from the United States. Mexico presents yet a third alternative--a nation with a high arms production capacity, according to Wulf, but with a small participation in the international arms market. Its geographic and economic proximity to the United States might explain its narrow strategic scope, although the development of a Mexican military industry could be seen as a search, even if a timid one, for some autonomy with respect to arms acquisition.⁹³

Analysts preoccupied with the political (rather than economic) nature of arms production have stressed military industrialization as part of an

import-substitution industrialization (ISI) strategy, the end of which is political independence. Gill and Law, for instance, refer to military industrialization by late-comers as "catch-up mercantilism."⁹⁴ Such an industrialization strategy follows different stages, as an aspiring power slowly develops indigenous capability.

Pierre argues that the creation of an indigenous arms industry involves "an incremental process in which the transfer of knowledge and technology from a willing supplier is a critical element."⁹⁵ The first step in this process, he suggests, is acquiring the ability to service and repair imported weapons. In the second step, a country assembles components purchased abroad. Third, weapons are actually produced in the country through licensing or co-production agreements. This is a critical step because "the recipient acquires technical knowledge and experience. . . which will subsequently allow it to manufacture on its own."⁹⁶

Wulf suggests similar stages of production that developing countries undergo in their integration into internationally organized production.⁹⁷ The first stage consists of developing a major overhaul and refurbishment capacity. Some Brazilian companies entered the arms business by winning contracts to refurbish tanks for the Brazilian military. The second stage involves "assembly work" as part of import substitution. Industrialized countries ship components to the developing countries, which enjoy lower labor costs. Once the products are assembled, they are either shipped back to the industrialized market or exported to other countries. Rolands and

anti-tank Cobra missiles, for example, are assembled in Brazil for a French-West German consortium.⁹⁸

The third stage includes the licensed production of some components in the developing countries. Production can include a response to local demand, although a common arrangement is the production for the licensor in the industrialized country. Brazil, for instance, produces components for the F-5 Northrop fighter.

The fourth stage includes the licensed fabrication of weapons systems for exports (with import of sophisticated parts). Many of Embraer's airplane models in Brazil were produced through licensed arrangements of this kind. Finally, the fifth arrangement includes the indigenous design and production of weapons, although it may involve imported components, particularly the most sophisticated ones such as radar and guidance systems. For instance, Brazil's armored personnel carrier "Cascavel," a popular export item, contains an imported engine and transmission. This stage is the final one for those countries that are seeking the development of an indigenous capability.⁹⁹

The critical process in the development of an arms industry is found in the ability of a local producer to move beyond stage four to include the production of truly indigenous weapons. As Table 2-9 suggests, based on Wulf's five-stage framework, many of the most advanced Third World middle powers have already attained such goals in several of the major weapons systems.

TABLE 2-9

NICs and Wulf's Stages of Production, 1984

	<u>Fighters, Light Fighters, Jet Trainers</u>	<u>Light Planes, Transport Planes</u>	<u>Guided Missiles</u>	<u>Main Battle Tanks</u>	<u>Light Tanks, APCs</u>
Argentina	5	5	5	4	4
Brazil	5	5	5	5	5
Chile	3	3	-	-	5
India	5	5	5	5	5
Israel	5	5	5	5	5
Mexico	-	-	-	-	3
South Africa	4	4	5	1	5
South Korea	4	-	?	5	4
Singapore	1	1	-	1	1
Taiwan	4	5	5	1	5

Key to Production Stage:

1=major overhaul and refurbishment capacity

2=assembly

3=licensed production of components

4=licensed production of weapons systems (import
of sophisticated parts)

5=indigenous design and production

Source: Wulf, "Arms Production in the Third World," 332-3.Note: Wulf only registered the most advanced projects in each category and for each country. "?" indicates status unknown; and "-" indicates nil.

A factor undermining their self-sufficiency policy objective, nevertheless, is not their dependence on dominant powers, as the revisionists (discussed in Chapter 1) might quickly suggest. Rather, the evolving international market shapes patterns of specialization that work against the national security goal of self-sufficiency. Even in technologically advanced countries, there has been a clamor against dependence on foreign weapons components. In the United States, for instance, members of Congress have decried the declining semiconductor industry because of the dependence its weakness creates on foreign components for the U.S. production and maintenance of missiles.

Helen Delich Bentley, a Congressmember from Maryland, complained in a letter to The New York Times about the increasing foreign role in the U.S. military:¹⁰⁰

The growing dependency on foreign sources for many component parts of the American defense machine flies in the face of all responsible military strategies to the point where I begin to wonder if we have forgotten what defense is all about. As if building the newest weapon, the biggest weapon, has become an end in itself It is a sad commentary that, after having spent more than \$1 trillion for defense in the last 10 years, we find ourselves not stronger but greatly weakened.

Industry response to these arguments tend to revolve around patterns of competitiveness in a crowded marketplace. As an industry official suggested in an interview, the American industry is interested in one thing: putting out the best product at the cheapest price. "If that means they have to

go get components from the foreign countries, so be it. They will do it, if it's a quality product."¹⁰¹

The issues are similar to those of Third World middle powers undergoing ISI but from different perspectives. The United States faces the issue of dependence from a declining position, while Third World middle powers ponder their ability to overcome dependence during their power ascent. The distinction is important because the national security strategy of nations experiencing upward mobility under ISI tends to focus much more on an eagerness to destroy old spheres of influence. As it climbs the hierarchical ladder, an aspiring power has to transform its relations with those at the top.

A dominant player such as the United States may make it all the more difficult for aspiring powers to move up in the hierarchy if their ascent dilutes (and often threatens) the status of those on top. A critical example in current international relations is the development of missile technology in Third World middle powers. While the United States encouraged the development of missile technology in Europe and Japan after World War II because it served U.S. national-security interests, Third World middle powers have since attempted to acquire missile technology outside U.S. political control. As argued earlier, within the structural context of the 1987 U.S.-sponsored regime to curb missile technology transfers, aspiring powers have to assess their national-security objectives in light of U.S. strategic interests.

What is particularly puzzling about arms production as an ISI strategy is that foreign technology becomes an essential character of local production. Because transnational corporations control so much of the sophisticated arms technology, some expenditures of foreign exchange are required, along with the formation of alliances with foreign capital so as to transfer critical technology. Such a strategy, however, only betrays the initial goal of self-sufficiency and political independence, because foreign governments may abruptly cut off the transfer of technology if it represents a national security threat. Ball suggests that "as long as Third World countries wish to replicate the weapons designed and produced in the industrialized countries, they will remain in a state of technological dependence."¹⁰²

But what choice do aspiring producers have, given the high cost of research and development and the sophistication of the weapons they face in confronting national-security challenges? An often-cited problem with too much reliance on foreign technology is the impact on the country's balance-of-payment position.¹⁰³ While indigenous military production is developed as an import-substitution strategy against dwindling foreign exchange reserves, technology imports become just as draining.¹⁰⁴

As an import-substitution method of industrialization, arms technology acquisition may actually be self-defeating. Arms industries do not create sufficient employment; the acquisition of machinery, components, and technology involves heavy foreign exchange outlays; and relying on relatively sophisticated technology may result in even more dependence on the industrialized nations for skills and capital.

Arms production as an ISI strategy also has received mixed reviews because of its inability to significantly reduce a middle power's reliance on foreign inputs. For instance, Ron Ayres concludes that the evidence indicates that arms production in Turkey is inefficient, expensive, and unreliable, with limited export potential.¹⁰⁵ Arms production in Turkey followed similar patterns of other middle powers facing closing restrictions on supplies from the United States. Following the Greece-Turkey confrontation in 1974 amid the Turkish invasion of Cyprus, the U.S. Congress imposed an arms embargo on Turkey, which accelerated Ankara's plans for expanding its weapons production capacity.

While Turkey had the industrial capability to produce new weapon types, its small market made production too costly. The development of an export orientation depended on the ability of the domestic industry to be efficient, to have competitive prices, and to offer products of good quality. As Ayres points out, "For Turkey, which has a highly dependent manufacturing sector and virtually no research and development capacity, it would take many years to achieve any degree of competitiveness in the less sophisticated weapons and probably decades for the more technologically sophisticated arms products."¹⁰⁶

Nevertheless, the F-16 sale to Turkey has been lauded as a classic case of the way offsets allow recipients to acquire a previously non-existent industry. General Dynamics, as Hammond suggests, "is in the business of economic development. It plans, designs, develops, and finances a product, industry, or

real estate development that provides Turkey with the cash to pay General Dynamics for its product."¹⁰⁷

Although arms technology has tended to proliferate in the post-World War II period, as was discussed before, the rate of product innovation and technological obsolescence in weapons production is such that many middle powers are not expected to be self-sufficient in the future without massive investment in R&D. This possibility, however, is remote given their limited resources. In addition, some analysts have found limited spinoffs to the civilian sector, which might justify the development of an arms industry as an effective industrialization strategy (apart from traditional national security requirements, such as protection of territory). Saadet Deger and Somnath Sen, for instance, provide several reasons for the slow spread.¹⁰⁸ First, they argue that the arms technology may be far too advanced for the rest of the economy. Second, the factor endowment of the economy may not necessarily match the imported technology, thus not reflecting appropriate comparative advantage in its establishment. Third, a zealous state might restrict civilian use because of concern over classified information involved in the technology import transaction.

Apart from the debate about internal economic benefits in arms production, there also has been a debate in the global security literature about the impact aspiring powers have had in the international arms market. Klare, for instance, concludes that Third World arms production is a major threat to world stability.¹⁰⁹ He takes an alarmist position and recommends

prohibiting technology transfer from the United States if the transfer has the potential for seriously damaging the economic health of U.S. industry. Neuman, however, asserts that Third World arms production is of little consequence because of its technological deficiency relative to the arms industry in industrialized nations.¹¹⁰ Pierre takes a similar position: "The new producers will make the situation more complex, but they may only change the overall picture marginally."¹¹¹ Therefore, Pierre accords only a "limited role as suppliers" for Third World arms producers.¹¹²

While there is much exaggeration about the impact of the new indigenous arms industries upon the international arms trade and world peace, scholars such as Pierre and Neuman misleadingly discuss Third World arms production from a traditional supplier-recipient relations perspective. Under such a myopic lens, Third World arms production constitutes only a dent in the market. Nevertheless, the authors downplay the structural dynamics underlying their rise in the first place: the international politics of technology transfer.

As Schwarz argues, "Because second-level arms producers can go to a variety of suppliers for components, no one nation can easily control the supply of components or influence the production of the completed system."¹¹³ Although it may be accurate to ascertain that these second-level producers find it extremely difficult to catch up with the industrialized nations in technological capability, Schwarz correctly points out that

"increasing technology transfers through license agreements may drastically change the current structure of international arms industry competition."¹¹⁴

The key word in Schwarz's argument is competition--the pattern of technology transfers as both cause and effect in the breakdown of traditional supplier-recipient relations. Third World arms producers are not only reproducing the old order in its dependence on advanced technology weapons, but they are also transforming it by importing technology and developing new markets for low-technology products. The competitive nature of the arms business also imposes restrictions on marketing techniques used by U.S. arms producers. Hammond argues that "efforts to get U.S. firms out of the offset business will only hasten the United States' decline in the international economy."¹¹⁵ Hammond estimates that half of the world's countries are currently mandating government-initiated countertrade policies.

The Paradox of National Insecurity

The two previous sections of this chapter have detailed the evolution of the market structure and the national security objectives of newcomers in it. Both structure and agency are here represented respectively as the context and strategies of middle powers' development. In order to explore this interrelation, this section will develop an analytical framework from which the paradox of national insecurity may be located.

Figure 2-1 shows a graphic representation of the context and strategic interests of arms exporters. The commercial considerations (low and high) of arms-exporting states is represented on the vertical axis, while the horizontal one shows the state's foreign-policy interests in arms transfers. The early days of the arms business fall under Quadrant I. In the mid-19th century, the state in rapidly industrializing European countries was slow to respond to changes in the arms market. As the destructiveness of the new industry and the proliferation of supplies became evident at the turn of the century, the state intervened and closely regulated arms transfers based on foreign-policy considerations. There was, in essence, a backlash against the openness with which the "merchants of death" marketed their wares.

In Quadrant II, European countries and the United States had gained control over the market and established strict control over arms transfers. Concern over disarmament dominated this period, as many policy-makers critically reviewed the role of private industry in the manufacture of weapons. Following European rearmament, state and industry combined forces, thus leading the former to play a stronger role in promoting indigenous production. Germany, in particular, used arms transfers as a foreign-policy instrument in its attempt to win over allies in South America.¹¹⁶

After World War II, the Cold War reinforced the superpowers' role in controlling arms transfers. As major suppliers in the market, their foreign-policy interests dominated decisions to transfer particularly

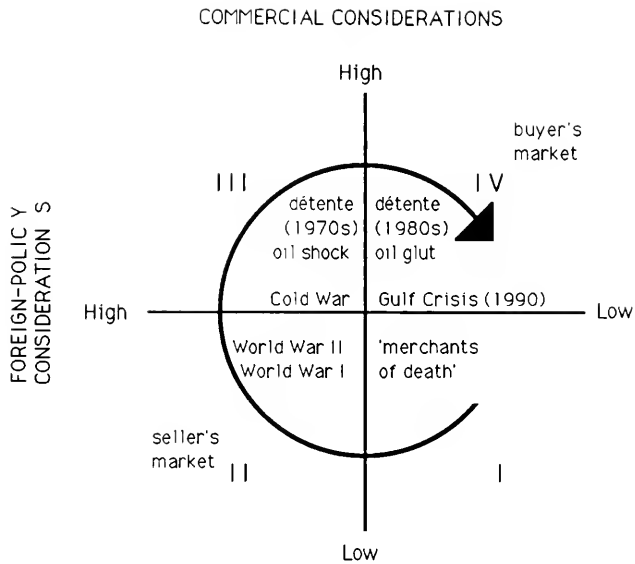


Figure 2-1. The State in the International Arms Export Market

sophisticated weapons to potential allies. The European and Japanese economic recovery directly challenged U.S. foreign-policy considerations by offering commercial alternatives that recipients found more attractive. Among those alternatives was the possibility of acquiring weapons without political requirements attached to the package deal. The weakening in the U.S. economic position in the 1960s lent further credence to the commercial justification behind arms transfers.

The arms market thus began a slow move toward Quadrant III. Europe embraced commercial considerations in arms exports much more eagerly because the vitality of its domestic industry depended heavily on foreign purchases. In turn, the state itself became a new "merchant of death." While U.S. producers did not have the same export need, the U.S. government began to emphasize military sales over grants during the 1960s. As détente came about in the 1970s and the number of arms suppliers continued to proliferate, competition pushed nations to view arms transfers more as a commercial arrangement rather than as an instrument of foreign policy. The United States, however, remained a reluctant supplier, torn between commercial and foreign-policy considerations, with the latter playing a dominant role.¹¹⁷ Therefore, the move toward Quadrant IV has not been uniform, with Europe and the United States divided over policy goals in arms transfers. In fact, European suppliers participated much more avidly in the transfer of military technology to emerging Third World arms producers, while the United States resisted.

Third World middle powers appeared as suppliers at this point when the market settled in Quadrant IV. Lacking well-defined foreign-policy interests, some Third-World middle powers favored, in the name of commercial pragmatism, the use of arms sales as part of trade policy, (e.g., increasing production volume, earning scarce foreign exchange) rather than using the traditional defense policy arguments such as alliance-making. Like the European arms rush to the Third World in the 1960s, by the late 1970s, Third World middle powers were following the same footsteps in reaching new markets in the Middle East, Africa and Latin America.

What distinguishes the Third World middle powers from their European mentors, however, is the technological level of sophistication the latter possess. Such a distinction is important because it is at this level that one finds the paradox of national insecurity. Unable to generate high levels of technology which allow them to compete in the international market, they have to rely on foreign sources. Dependence on foreign technology slows the original national-security goal of political independence.

There is a systemic dimension to the paradox which applies to all nations in Quadrant IV. As part of a national-security objective, political independence, nations develop an indigenous arms industry. However, because they have to export in order to reach economies of scale (a commercial consideration in arms transfers), these suppliers in a sense saturate the market with sophisticated weapons and defense technology. This saturation allows for the proliferation of suppliers through offset

requirements, which makes the market highly competitive. The leverage of recipients increases, which makes it all the easier for industrially weak nations to obtain a considerable military capability in a short period of time. The recent Gulf crisis illustrates well how the national security of suppliers is threatened (major disruption of the oil market) because they pursued other national-security objectives (development of an indigenous capability through close integration to the export market). As a traditional recipient, Iraq took advantage of a buyer's market to gain access to sophisticated weapons which threatened the world peace.

This systemic dimension of the paradox is even more critical for Third World arms-producers since they are not self-sufficient in technology. Arms exports provide foreign exchange, which in turn is used to buy foreign technology. Dependence on those foreign sources only aggravates the paradox, because it invalidates the original premise that an indigenous arms industry provides political independence. This dependence on foreign inputs highlights the technology-related dimension of the paradox. As subsequent chapters will show, U.S.-Brazilian military relations have reinforced those patterns of dependence, while Brazil has developed a sophisticated arms industry.

Before we delve into the case study in subsequent chapters, it is important to explore more closely the concept of dependence in relation to the paradox. The technological dimension of the paradox rests, as argued before, on the industrializing stimulus that the market provides aspiring

powers via closer integration into the international trade system. Because of the limited home market for their weapons production and a shortage of foreign exchange used to import technology, aspiring producers have to rely on the international market for survival. As Lock and Wulf argue, "the export of arms becomes a necessary extension of a national strategy geared toward self-sufficiency; this means that arms developed and produced domestically must be competitive in the world market."¹¹⁸ Integration, however, means greater vulnerability to changes in the international market that affect aspiring powers' competitive position. Dependence, therefore, comes from the increasing reliance on foreign inputs to help offset the slow pace of domestic technology formation.

Dependence on foreign technology may require Third World arms producers to sell as much as they can abroad so as to earn foreign exchange to allow continued imports of capital goods. Paradoxically, however, as Ball points out, this dependence often limits their ability to expand their sales abroad.¹¹⁹ The United States keeps a close eye on the export of its technology to third parties. Therefore, technology sales often include restrictions on the exports of products derived from U.S. technology. Such a dilemma is at the heart of U.S.-Brazilian military relations in recent years, as the latter has attempted to tap the former's technological advances.

Studies of dependence in the arms market have ignored these systemic and technology-related dimensions, while stressing relational definitions: actor A's dependence on actor B's supplies. In adapting the concept of

dependence to the paradox of national insecurity, Pierre, for instance, argues:¹²⁰

There is some irony here, for almost all of the countries that have embarked upon creating an arms-manufacturing industry have basically done this for political and security reasons. They wish to become more independent by becoming self-sufficient. Yet as they develop and equip their military establishment, they feel the necessity for more up-to-date arms--often their opponent is doing the same--and this introduces requirements for still more advanced weaponry, which can only be made available from abroad.

The author places the paradox within a traditional framework of competition among individual nation-states under an anarchic order. The need for more advanced weaponry comes from the fear that opponents may obtain them. Pierre, not surprisingly, uses Israel as a classic example.¹²¹ Nevertheless, for a country such as Brazil, which suffers no strategic threat to the extent Israel faces, a broader view of dependence and competition is required. One needs to address the competitive pressure the international arms market as a whole places on individual participants. Under this view of dependence and competition, technology transfers become a strategy for one to meet the challenges of a fast-changing international market. As such, the paradox of national insecurity is a by-product of integration at the systemic level, rather than the result of bilateral threats in a self-help order.

Christian Catrina offers a similar traditional framework for evaluating what structure of arms imports or exports leads to dependence.¹²² The author views arms transfers in the context of the global distribution of power. His

central concern is to address the enhancement of military capabilities caused by arms transfers in comparison to the dependence that these transfers may cause. Dependence, therefore, is analyzed as "opportunity costs" of foregoing relationships: "the 'currency' that balances a relationship where the direct benefits are unequally distributed."¹²³ The author lists the determinants of dependence as variables that shape the extent of one actor's dependence on the other actor. Catrina, therefore, describes the structure of supply and demand at the individual-actor level as determining recipient and supplier dependence: the "perceived distribution of costs and benefits within an arms transfer relationship."¹²⁴

Raimo Väyrynen also uses a limited dependence argument when he suggests that imports of military technology tend to preserve an "asymmetric dependence pattern between the center and the periphery."¹²⁵ There is a clear power asymmetry between the two sides, but one should be careful in differentiating dependence on a supplier (actor, "center") and dependence on a process (technological infusion in the arms market), a distinction Väyrynen does not critically explore. After all, with the increasing capability of many middle powers, there is a breakdown in the center-periphery divide, as well as a blurring in the exclusivity of supplier role-playing. In 1983, for instance, Egypt purchased from Brazil a license for the production of the EMB-312 Tucano trainer aircraft. Brazil's Tucano is based on a similar trainer design, the EMB-326 Xavante, which is produced under license from the Italian firm Aermacchi. In the same year of the sale, Egypt negotiated an agreement to

supply Iraq with eighty of the aircraft.¹²⁶ In this arrangement, who is the supplier, and who is the recipient?

The paradox of national insecurity could also be extended to the national security policy of industrialized countries as a way of explaining the diffusion of technology. There is a contradiction between the structural dynamics of the inter-state system and those of international economic competition. Because of their small domestic market, producers export as a way of generating revenues for further research and development. Arms exports in a highly competitive market inevitably diffuse technology as part of the technology transfer dynamics explained earlier in this chapter. The resulting contradiction unfolds: "for national security reasons states may wish to monopolise particular military-industrial technologies but the economics of technological innovation drive them to policies which facilitate diffusion."¹²⁷

Both systemic and technology-related dimensions of the paradox will be explored here in the context of U.S.-Brazilian military relations since World War II. Three periods can be clearly discerned from the two countries' relations in that period. In the first period, immediately after the war, Brazil played a traditional recipient role under which close allegiance to a superpower guaranteed access to weapons. In the second period, beginning in the 1960s, a nationalist military government developed a comprehensive national-security policy that included the development of an indigenous arms industry. The successful entry of Brazil in the arms market in the 1970s

lead to the restructuring of the two countries' military relations. The 1980s marked the beginning of the third period, during which Brazil faced the consequences of the paradox discussed in this chapter. During this period, Brazil reevaluated its alliance position vis-à-vis the United States, while attempting to assert its political independence fought for during the second period. The final chapter of this study will relate these periods to the experience of other Third World middle powers. By studying similarities and differences, we will gain a deeper perspective on the political economy of the arms trade as it relates to the paradox many aspiring powers face in the current developmental context.

Notes

1. Edward J. Laurence and Joyce A. Mullen, "Assessing and Analyzing International Arms Trade Data," in Marketing Security Assistance: New Perspectives on Arms Sales, eds. David J. Louscher and Michael D. Salomone (Lexington, Mass.: D.C. Heath and Company, 1987), 81.

2. Stephanie G. Neuman, "The Arms Market: Who's on Top?" Orbis 33 (Fall 1989): 528.

3. Nicole Ball, Security and Economy in the Third World (Princeton: Princeton University Press, 1988), 88.

4. Laurence and Mullen, "Assessing and Analyzing," 81.

5. Ball, Security and Economy, 86.

6. For a good review of the United Nations' Unified Reporting System, see *Ibid.*, 97-106.

7. Edward T. Fei, "Understanding Arms Transfers and Military Expenditures: Data Problems," in Arms Transfers in the Modern World,

eds. Stephanie T. Neuman and Robert E. Harkavy (New York: Praeger Publishers, 1979), 43.

8. Michael Brzoska, "The Reporting of Military Expenditures." Journal of Peace Research 18 (1981): 264.

9. Fei, "Understanding Arms Transfers," 40.

10. Ball, Security and Economy, 111-22.

11. Paul L. Ferrari, Raúl L. Madrid and Jeff Knopf, U.S. Arms Exports: Policies and Contractors (Cambridge, Mass.: Ballinger Publishing Company, 1988), 4.

12. Laurence and Mullen, "Assessing and Analyzing," 85.

13. For a helpful review of some recent multinational weapons projects and their significance to the international arms trade, see Björn Hagelin, "Multinational Weapons Projects and the International Arms Trade," World Armaments and Disarmament, SIPRI Yearbook 1984, 151-63; Carole A. Shifrin, "Lower East-West Tensions May Boost Joint European Defense Projects," Aviation Week & Space Technology, 19 March 1990, 86-8.

14. Laurence and Mullen, "Assessing and Analyzing," p. 87.

15. Neuman, "The Arms Market," 529; Michael T. Klare, "The State of the Trade: Global Arms Transfer Patterns in the 1980s," Journal of International Affairs 40 (Summer 1986): 12.

16. John Markoff, "Export Restrictions Fail to Halt Spread of Supercomputers," The New York Times, 21 Aug. 1990, p. A1.

17. Latin American Regional Reports: Brazil, 1 June 1989.

18. Clive Trebilcock, The Vickers Brothers: Armaments and Enterprise, 1854-1914 (London: Europa Publications Limited, 1977).

19. Gert von Klass, Krupps: The Story of an Industrial Empire, trans. by James Cleugh (London: Sidgwick and Jackson, 1954).

20. Anthony Sampson, The Arms Bazaar (New York: The Viking Press, 1977), 41-2.

21. Ibid., 43.

22. Ibid., 87.

23. Ferrari et al., U.S. Arms Exports, 28.

24. Quoted in Sampson, The Arms Bazaar, 81.

25. In fact, in The Arms Bazaar, Sampson argues that "the attack on the arms industry had become itself a minor industry." (p. 80)

26. J. D. Scott, Vickers, A History (London: Weindenfeld and Nicolson, 1962), 297.

27. Grant T. Hammond, "Offset, Arms, and Innovation," The Washington Quarterly 10 (Winter 1987): 174.

28. James Everett Katz, "The United States: U.S. Arms Technology Transfer Policy," in The Implications of Third World Military Industrialization, ed. James Everett Katz (Lexington, Mass.: D.C. Heath and Company, 1986), 12.

29. Philip J. Farley, Stephen S. Kaplan and William H. Lewis, Arms Across the Sea (Washington, D.C.: The Brookings Institute, 1978), 19-42.

30. Joseph P. Smaldone, "U.S. Commercial Arms Exports: Policy, Process, and Patterns," in Marketing Security Assistance: New Perspectives on Arms Sales, eds. David J. Louscher and Michael D. Salomone (Lexington, Mass.: D.C. Heath and Company, 1987), 189.

31. Katz, "The United States," 4.

32. Sampson, The Arms Bazaar, 173.

33. In 1969, Henry Kuss, by then a legend in Washington and European capitals, left the ILN, which was renamed DSAA (Defense Security Assistance Agency).

34. Lamar Bowles, interview with author, Houston, Tx., 22 May 1990. Mr. Bowles is a senior advisor to the president, Space Transportation Systems Division, Rockwell International Corporation.

35. Quoted in Sampson, The Arms Bazaar, 156.

36. Ulrich Albrecht, "The Federal Republic of Germany and Italy: New Strategies of Mid-Sized Weapons Exporters?" Journal of International Affairs 40 (Summer 1986): 131-2.

37. Ibid., 142.
38. Sampson, The Arms Bazaar, 186.
39. Katz, "The United States," 4.
40. Michael T. Klare, American Arms Supermarket (Austin: University of Texas, 1984), 91.
41. Ibid., 91-2.
42. Ibid., 41.
43. Stephen Gill and David Law, The Global Political Economy: Perspectives, Problems, and Policies (Baltimore: The Johns Hopkins University Press, 1988), 109.
44. Klare, "The State of the Trade."
45. Barry Buzan, An Introduction to Strategic Studies: Military Technology and International Relations (New York: St. Martin's Press, 1987), 46.
46. Ferrari et al., U.S. Arms Exports, 6.
47. Quoted in Markoff, Markoff, "Export Restrictions," A1.
48. John D. Morrocco, "Task Force Urges Overhaul of Pentagon Policy On Industrial Cooperation With Pacific Rim," Aviation Week & Space Technology, 13 Nov. 1989, 32.
49. Judith Miller, "Third-World Lands Join Ranks of Arms Exporters," The New York Times, 13 Dec. 1981, p. 20; Michael Sieniawski, "Brazil cashes in with open-door policy on arms sales," The Christian Science Monitor, 12 Nov. 1982, p. 15; James Nelson Goodsell, "Brazil cashiers military government, but cashes in on arms sales," The Christian Science Monitor, 14 Jan. 1985, p. 11; Alan Riding, "Brazil's Burgeoning Arms Industry," The New York Times, 3 Nov. 1985, p. 4.
50. Klare, "The State of the Trade," 4.
51. Quoted in Ferrari et al., U.S. Arms Exports, 4.
52. Neuman, "The Arms Market," 519.

53. Joe Loftus, telephone conversation with author, Houston, Tx., 23 May 1990. Mr. Loftus is Assistant Director of the Lyndon B. Johnson Space Center. He suggested during the conversation that three-fourths of the government export control policies are unnecessary.

54. National Academy of Sciences, Balancing the National Interest (Washington, D.C.: National Academy Press, 1987).

55. The State Department's Office of Munitions Control (OMC) regulates commercial sales of military equipment, although the DoD has often exhibited an interest in taking control of the office. Industry officials, obviously, oppose the move because of the fear that the DoD would further tighten controls; Ferrari et al., U.S. Arms Exports, 19.

56. Murray Weidenbaum, "Defense 'Conversion'--An Empty Promise," The New York Times, 20 Aug. 1990, p. A15; Louis Uchitelle, "Difficult Switch For Arms Makers," The New York Times, 23 April 1990, p. C2. Mr. Bowles, in an interview with the author, estimated that today only 25 percent of Rockwell's business is tied into defense, the remaining being commercial. In the mid-1980s, DoD awards amounted to 50 percent of the company's total sales, according to Ferrari et al., U.S. Arms Exports, 378.

57. Quoted in Robert Pear, "Arms Sales to Third World Said to Decline Sharply," The New York Times, 21 June 1990, p. A6.

58. Klare, "The State of the Trade," 16.

59. Aviation Week & Space Technology, 20 April 1987, 28.

60. U.S. Congress, Senate Committee on Armed Services, Ballistic and Cruise Missile Proliferation in the Third World: Hearing before the Subcommittee on Defense Industry and Technology, 101st Cong., 1st sess., 2 May 1989.

61. Aviation Week & Space Technology, 23 Oct. 1989, 15.

62. Klare, "The State of the Trade."

63. Anne G. Keatley, ed., Technological Frontiers and Foreign Relations (Washington, D.C.: National Academy Press, 1985).

64. Jack Baranson, "Offset Requirements: US Companies React to Escalating Demands," Multinational Business no. 3 (Autumn 1987): 25; Norman A. Graham, "Security Dilemmas in the Sale and Transfer of Pacing

Technologies," in Marketing Security Assistance: New Perspectives on Arms Sales, eds. David J. Louscher and Michael D. Salomone (Lexington, Mass.: D.C. Heath and Company, 1987), 218; Stephanie G. Neuman, "Coproduction, Barter, and Countertrade: Offsets in the International Arms Market." Orbis 29 (Spring 1985): 196; Klare, American Arms, 166.

65. Ball, Security and Economy, 355-56.

66. Jerry Bostick, interview with author, Houston, Tx., 22 May 1990. Mr. Bostick is vice-president, Grumman Corporation, Houston Operations.

67. Lew Fisher, interview with author, Houston, Tx., 23 May 1990. Mr. Fisher works at the Space Transportation Systems Division, Rockwell International Corporation.

68. Helena Tuomi and Raimo Väyrynen, Transnational Corporations, Armaments and Development (New York: St. Martin's Press, 1982), 152.

69. Peter Lock and Herbert Wulf, "The Economic Consequences of the Transfer of Military-oriented Technology," in The World Military Order, eds. Mary Kaldor and Asbjørn Eide (New York: Praeger Publishers, 1979), 230, n. 25.

70. Neuman, in "Coproduction, Barter," offers an excellent review of the two types and their implications to U.S. defense policy.

71. Hammond, "Offset, Arms," 176.

72. For a good review of indirect offset agreements, see Hammond, "Offset, Arms."

73. Hammond, "Offset, Arms."

74. Baranson, "Offset Requirements," 27.

75. Ibid.

76. Klare, American Arms, 169.

77. Neuman, "Coproduction, Barter," 198.

78. Hammond, "Offset, Arms," 182-3.

79. Klare, American Arms, 176.

80. Albrecht, "The Federal Republic," 140.
81. James Brooke, "Gulf Crisis Has Brazil in a Tailspin," The New York Times, 27 Aug. 1990, p. C10.
82. Charles Smith, Japanese Technology Transfer to Brazil (Ann Arbor, Michigan: UMI Research Press, 1981), 30.
83. Ibid., 31.
84. Neuman, "The Arms Market," 522.
85. Ibid., 511.
86. Buzan, An Introduction to Strategic Studies, 40.
87. Ball, Security and Economy, 354.
88. Ibid., 354-7.
89. Herbert Wulf, "Developing Countries," in The Structure of the Defense Industry, eds. Nicole Ball and Milton Leitenberg (London and Canberra: Croom Helm, 1983), 310-43.
90. Stephanie G. Neuman, "International Stratification and Third World Military Industries," International Organization 38 (Winter 1984): 167-97.
91. Robert E. Looney, "Economic Environments Conducive to Indigenous Third World Arms Production," The Singapore Economic Review 33 (October 1988): 66-78.
92. Ibid., 77.
93. Augusto Varas, "The Transfer of Military Technology to Latin America," Disarmament 12 (Autumn 1989): 105.
94. Gill and Law, The Global Political Economy.
95. Andrew J. Pierre, The Global Politics of Arms Sales (Princeton: Princeton University Press, 1982), 124.
96. Ibid.

97. Herbert Wulf, "Arms Production in the Third World," World Armaments and Disarmament, SIPRI Yearbook 1985 (London: Taylor & Francis, 1985), 329-43.

98. Miller, "Third-World Lands."

99. Lock and Wulf, "The Economic Consequences," 218.

100. Helen Delich Bentley, Letter to the Editor, The New York Times, 20 Nov. 1989, p. 24.

101. Bowles, interview with author.

102. Ball, Security and Economy, 371.

103. Tuomi and Väyrynen, Transnational Corporations, 207.

104. Ann Taylor Schwarz, "Arms Transfers and the Development of Second-Level Arms Industries," in Marketing Security Assistance: New Perspectives on Arms Sales, eds. David J. Louscher and Michael D. Salomone (Lexington, Mass.: D.C. Heath and Company, 1987), 126.

105. Ron Ayres, "Arms Production as a Form of Import-Substituting Industrialization: The Turkish Case," World Development 11 (September 1983): 813-23.

106. Ibid., 818.

107. Hammond, "Offset, Arms," 180.

108. Saadet Deger and Somnath Sen, "Technology Transfer and Arms Production in Developing Countries," Industry and Development no. 15 (June 1985): 1-18.

109. Michael T. Klare, "The Unnoticed Arms Trade: Exports of Conventional Arms-Making Technology," International Security 8 (Fall 1983): 68-90.

110. Neuman, "International Stratification."

111. Pierre, The Global Politics, 126-7.

112. Ibid., 303.

113. Schwarz, "Arms Transfers and the Development," 103.

114. Ibid., 105.

115. Hammond, "Offset, Arms," 183.

116. See, for instance, Stanley E. Hilton, Brazil and the Great Powers, 1930-1939: The Politics of Trade Rivalry (Austin: University of Texas Press, 1975).

117. James Everett Katz argues that commercial and balance-of-trade considerations are very low on the list of criteria by which U.S. sales are made. She quotes an official from the Office of Munition Control (OMC) in the State Department as saying: there is "almost no consideration of commercial benefit involved" in a decision. See James Everett Katz, "The United States: U.S. Arms Technology Transfer Policy," in The Implications of Third World Military Industrialization, ed. James Everett Katz (Lexington, Mass.: D.C. Heath and Company, 1986), 14. While the source may not necessarily reflect the general pattern in past decisions, it does show the continuing importance of foreign-policy considerations in U.S. arms transfers.

118. Lock and Wulf, "The Economic Consequences," 218.

119. Ball, Security and Economy, 381.

120. Pierre, The Global Politics, 304.

121. Ibid., 303.

122. Christian Catrina, Arms Transfers and Dependence (New York: Taylor & Francis, 1988).

123. Ibid., 149.

124. Ibid., 291.

125. Raimo Väyrynen, "Economic and Political Consequences of Arms Transfers to the Third World," Alternatives 6 (March 1980): 149.

126. Schwarz, "Arms Transfers and the Development," 124.

127. Gill and Law, The Global Political Economy, 113.

CHAPTER 3

THE COLD WAR ORDER, 1940s-1950s

After World War II, aspiring powers such as Brazil had to face a new international arrangement favoring the two superpowers, the United States and the Soviet Union. Making a choice between the two sides entailed both costs and benefits. Political and economic dependence imposed a severe cost in terms of diplomatic flexibility, while a superpower's "incentives" (arms, trade, economic assistance) rekindled hopes of domestic improvements in economic and military capability. For weaker nations, the structure of the international system in the 1950s not only dichotomized policy alternatives (East versus West), but it also in some ways supplied the "preferred" alternative. In the Brazilian case, located as it was in the U.S. sphere of influence, the immediate post-war period fostered the politics of "uneven attraction" (the U.S. power to control the national security agenda of Brazil) rather than the politics of choice which had predominated in the interwar period (choosing between competing alliances--Germany or the United States--according to locally developed national security goals).

The principal casualty in the politics of uneven attraction is the taming and molding of nationalist objectives so as to conform to external requirements. As previous chapters have pointed out, structures possess both

constraining and enabling elements. The 1950s worked as the starting point of a new world order. As such, it imposed the parameters of freedom for its players.

The main task of this chapter thus is to uncover the sources of constraint in Brazil's national security policy during the 1950s. At the same time, this chapter identifies the structural elements that will encourage liberating aspirations for weaker players, as well. Nationalism in national security policy making is an important factor in the two processes of uneven attraction and choice. The tight bipolar system constrained nationalism by reorienting it toward U.S. Cold-War objectives, with an emphasis on the geopolitical threat of Communism. The wide gap between the two powers (Brazil and the United States), however, provided the basis from which developmental aspirations by the former could be linked to national security, thus inspiring a drive toward "grandeza nacional" (national greatness). Both structure and agency here are represented by the Cold War geopolitics and developmentalism, respectively.

In keeping with the agent-structure framework presented earlier in this study, this chapter has two basic objectives. First, it lays out the structural context of U.S.-Brazilian military relations after World War II, with particular attention to the 1952 military assistance agreement. The U.S. power to aggressively promote its policy objectives became quite evident in Brazil after the war, when the United States used its leverage to redesign defense policy in Latin America. In Brazil's case, the 1952 solidified the country's

close alliance with the Cold War objectives of the United States, while establishing U.S. control over Brazilian arms procurement policy. This agreement, therefore, should give us new insights about the way the politics of "uneven attraction" operates in a situation of clear asymmetry.

While the present chapter explores the constraining character of the Cold War structure, the next one will deal with the loosening of the bipolar structure, which becomes an enabling factor in Brazil's "great power" aspirations. The source of this "enabling factor," however, is found in the 1950s when Brazil developed a sophisticated Doctrine of National Security, which closely linked development to security conceptions. This chapter argues that the tight bipolar structure of the 1950s downplayed the developmental application of this doctrine, while encouraging traditional geopolitical conceptions of asymmetrical power relations (the United States as the guardian of the hemisphere and Brazil as the supplier of strategic raw materials to its protector).

The second objective of this chapter is to investigate the parameters of voluntarism in Brazil's national security policy-making after the war. In other words, given the structural constraints Brazil faced after the war, how much freedom did policy-makers have to define their own objectives independent of foreign influence? In particular, this chapter seeks to explore the transformation of nationalism in the Brazilian military into a conservative force in favor of U.S. Cold War aims. In the politics of "uneven attraction," we should expect nationalism in the weaker player to be

subordinated to the objectives of the stronger actor. The U.S.-Brazilian military relations after the war should clearly demonstrate this dynamic.

The first section of this chapter details Brazil's military capability before World War II and its subsequent participation in that conflict. This background will be useful in understanding the country's preoccupation with external vulnerability. The second section explores the development of Brazil's post-war Doctrine of National Security (NSD), while the third examines the 1952 military aid pact. The two (NSD and the pact) reflect different national security perspectives on the role of Brazil in the international system. While NSD aspired to move Brazil beyond its client state role, the former reinforced the old patron-client arrangement between a supplier of manufactured goods (weapons) and a supplier of raw materials (strategic minerals). The last section explores the patterns of dependency in Brazil's security relations with the United States, with a particular focus on the transformation of nationalism under NSD.

Antecedents to Brazil's Cold War Military Cooperation

From independence in 1822 to World War II, Brazil relied on European allies (i.e., Germany, France and Britain) for military weapons. This dependence on other countries concerned many officers, but the underdeveloped stage of Brazil's industrial capability left them with little choice. During the first decades of this century, Brazil depended heavily on France for arms and training which alarmed Brazilian officers during World

War I when supplies were temporarily cut. In addition, the destructiveness of the conflict in Europe raised concern in Brazil for a more modern military capability. Stanley Hilton recounts a gloomy picture of the country's predicament early in this century, when officers in the French Military Mission did not conceal their dismay at the Brazilian army's inefficiency.¹ As a reflection of this sense of unpreparedness, Brazil resisted the disarmament efforts of the 1920s, for it did not consider its military capability adequate to address its national security requirements.

The military as an institution often took an active role in building the country's industrial base. Since its early beginnings, the Brazilian military viewed development as an essential component of international power relations. The consensus was that without military industrialization, Brazil might be easily placed at the mercy of stronger nations. Marshal Fernando Setembrino de Carvalho, the Minister of War in 1922-1926, argues in his memoirs that indigenous arms production is an imperative step--"well-advised patriotism"--in freeing the country from dependence on foreign supplies. He adds, "A nation without military industry in its territory, without producing, if not everything its armed forces need, at least what its industrial development already permits it to produce, will always be a nation at the mercy of foreign governments' wishes."²

The rivalry between Argentina and Brazil during the early decades of the century fueled the latter military's interest in acquiring the capability to deter what was perceived as an aggressive, expansionist Argentina bent upon

establishing hegemony on the continent. Hilton points out that one of the themes which dominated the Brazilian elites' assessment of the country's situation was national vulnerability, and Argentina was certainly the yardstick used to measure national military strength.³

Though Hilton convincingly demonstrates that this elite assessment led to a defensive strategy with a "heavy emphasis on diplomacy as an instrument for enhancing national prestige,"⁴ the developmental dimension of insecurity escapes his analysis. After all, the 1930s stands as a period of significant industrialization that moved the country away from its landed aristocratic origins.⁵ Hilton does emphasize the resource constraints policy-makers faced during the 1920s, which limited a military budget expansion and heavy weapons acquisition. Low levels of manufacturing capability also stood as a major impediment to deep military industrialization. However, the military became much more active in the industrialization process, which reflected their concern with the country's power position in the international system.⁶

The early involvement of the military in the country's industrialization provided the basis for future linkage between development and national security. In the first decades of this century, the military developed its own expertise in the industrial sector. In the 1930s and '40s, for instance, military officers were sent abroad to study the latest techniques in oil drilling and refining. Others mastered steel technology and telecommunications.⁷ In fact, the Instituto Militar de Engenharia, the

military engineering school in Rio de Janeiro, was by World War II the only institution in the country preparing metallurgical engineers. The military's participation in the economy also spilled over into the private sector, with retired officers eventually moving to private as managers and technicians.⁸

Brazil's suspicions about Argentina's hegemonic intentions in the 1910s and 1920s provided the impetus for immediate improvement in defense capabilities. The same immediacy reappears in the 1930s as Brazil watched European conflicts slowly taking a global context. The sense of urgency continued through the 1940s with the onset of the Cold War. Yet, because Brazil did not have an economic infrastructure in place whenever national-security emergencies appeared, military industrialization was timid and with little impact on the country's rearmament programs.

In contrast, we can see how a country like Japan, with a well-established economic infrastructure, was able to quickly respond to developments in Asia after World War II. The Korean War in a sense "jump-started" Japan's economy.⁹ During 1950-51, orders from the U.S. military totaled \$1.6 billion. Japan's industrial output went up by 46 percent in the first year of the war. The first sizeable order that the Nissan Motor Company received after World War II was to repair trucks in Korea. As Hisao Kanamori, chairman of the Japan Center for Economic Research, pointed out, "Without the Korean War, it might have taken 10 more years for the Japanese economy to recover."¹⁰ Brazil did not possess a similar infrastructure in the interwar period, which might have encouraged military industrialization to the extent that it could

have induced more self-reliance. Instead, urgency, combined with a weak economic position, reinforced old patterns of dependence on foreign suppliers.

In the interwar period, Brazil benefited from the power vacuum in the international system to reap economic and political benefits. While European countries remained strong allies, U.S.-Brazilian relations continued to improve considerably. This trend began in the first decade of the century, in part from the work of the famed Baron of Rio Branco, Brazil's foreign minister (1902-1912), who is often credited with cementing the close relations between the two sides. U.S. hegemony in the region, however, was not well established at that point, and in the interwar period, Brazil profited from great-power rivalries for its allegiance.

The United States worried about Germany's interest in South America's raw materials because they would provide an opportunity for the emerging European power to expand its sphere of influence. Gerson Moura correctly points out that the appearance of Germany in the interwar period as an avid consumer of Brazilian raw materials greatly expanded the market alternatives for Brazilian exports.¹¹ Britain's declining influence in Brazil had not meant the end of the latter's economic dependence on a foreign market. Brazil welcomed trade with Germany because there was not as much demand for raw materials from the United States, which had its own reserves.

Britain, Hilton suggests, feared the Nazi trade thrust in South America, but its bargaining position in Brazil was weak.¹² It had to rely on the United States to frustrate Berlin's trade strategy. Germany's aggressive strategy included mainly barter and compensation-mark trade arrangements, which used the private sale of weapons to win vital raw materials. During the interwar period, as discussed in the previous chapter, the United States took a leading role in discouraging private arms sales. Germany, however, used its private arms-makers, such as Krupp, to penetrate the South American market. Because of Brazil's interest in rearmament, Germany became a potent trade rival of the United States.

Brazil was able to capitalize on this rivalry by carefully pitting one side against the other, extracting commercial benefits in the process.¹³ The interwar period possessed two systems of power, each seeking alliances, which allowed the Brazilian foreign policy-makers to establish what Moura calls a "pragmatic equidistance."¹⁴ Even as political events in the late 1930s forced President Getúlio Vargas' Estado Novo dictatorship (1937-1945) to oppose Germany's belligerent intentions, Brazilian policy continued to be one of closer ties with any nation that might help its military and economic capability. Brazil used the possibility of German arms purchases to encourage the United States to abandon its traditional policy of restraint in arms sales to Latin America.¹⁵ In the process, Brazil used both sides to build its military capability. Even in March 1938 and in August 1939 on the eve of the world conflict, the Brazilian government signed two agreements with the German

weapons manufacturer, Krupp, for the purchase of armaments.¹⁶ The 1938 agreement was part of a five-year rearmament effort.¹⁷ Five secret decree-laws in the same year opened new credits for the military to buy armaments.¹⁸

Brazil's bargaining power rested on its raw materials. As long as centers of power vied for them, Brazil benefited--a true expression of the politics of choice. World War II forced Brazil to take a position since both sides of the conflict needed raw materials for the war effort. In addition, the Allies' naval embargo against Germany seriously crippled Brazil's trade with that country, including the supply of German weapons to the Brazilian military. The subsequent collapse of German power and the ascendancy of the United States to a superpower status could only mean the unveiling of the politics of uneven attraction.

The international conflict thus had a direct impact on Brazil's security relations, shifting the patterns of dominance from Europe toward the United States. In 1939, Brazil welcomed an American Military Mission that trained the Brazilian army until 1945. The Mission came after the visit of March 25-April 7, 1939, of the U.S. Army Chief-of-Staff, General George Marshall, who arrived in the country along with General Mathew Ridgeway--later the U.S. commander in the Korean War.¹⁹

Military cooperation between Brazil and the United States was formalized in 1942 with an agreement that served as the basis for the former's entry in the war. The Brazilian Expeditionary Force (Força

Expedicionária Brasileira, or FEB) first arrived in Italy on July 2, 1944 with 5,075 troops.²⁰ Four other divisions were sent, for a total of 25,334 troops by 1945. The military's dependence on the United States, however, was just as significant. The United States not only supplied the weapons, but it even provided food and the uniforms that Brazilian troops used.²¹

It is important to point out that Brazil (and not the United States) proposed the FEB idea, and it was not part of the American plan for the liberation of Europe.²² FEB, however, elevated Brazil's prestige in the international system, as well as allowed the country to receive sophisticated weapons from the United States. During the war, Brazil received 71 percent of all U.S. military assistance to Latin America.²³ Gambini interprets Brazil's idea of a direct participation in the war as the military's effort to establish a cooperation without restrictions. Vargas reminded President Roosevelt when the two met in the Northeastern city of Natal in 1943 that since Brazil was in the war, cooperation with the United States should be "complete."²⁴ FEB, as a result, became not only a clever Brazilian military strategy (gaining access to American armament) but also an attempt to score a political victory because it would supposedly enhance the status of the nation in Latin America and the rest of the world. In this sense, Brazil's role would not be simply one of resource supplier and of "way-station to the battlefields."²⁵

While the 1942 agreement had as its basis Brazil's participation in the war, the emergence of the U.S.-Soviet rivalry in the 1940s gave way to new patterns of alliance in world affairs. Two aspects of the late 1940s placed Brazil

in the unusual position of strongly supporting U.S. foreign policy. First, the destruction of Britain as an actual hegemon and of Germany as an aspiring one broke the traditional linkage that had existed between Brazil and Europe in previous decades. Second, the Soviet Union did not have any previous strong ties with Brazil. Therefore, its influence in Brazil was certainly viewed as "foreign." The United States, as a result, easily dominated Brazil's foreign relations agenda.

From a U.S. perspective, Brazil was important because of its size and strategic location. As had been the case in the 1930s, the presence of European powers in South America caused serious concern in Washington. It was under this geopolitical concern that the United States developed its Cold War strategy.²⁶ During the World War II, the United States used the Northeast of Brazil as a base for launching attacks on Northern Africa.

The United States used the city-port of Recife as a base for one of its fleets. There was another good reason for the U.S. presence in the Northeast: Since the bulk of the Brazilian military was in the south (because an old rivalry with Argentina), the country was ill prepared to defend its vast Northeastern territory.²⁷ In 1941, on the eve of Brazil's entry in the war, there were even press reports that Germany planned a surprise landing in Recife to destroy Brazil's defensive plans in its Northeastern territory.²⁸ This same type of geopolitical interest in Brazil persisted through the 1940s. This time, however, the Soviet Union replaced Germany as the potential aggressor.

Aside from the geopolitical interest in Brazil, there was also a developmental concern that extended to both devastated areas in Europe and to the underdeveloped Third World. The interest in development was part of the rationale that linked economic crisis to Communist opportunism.²⁹ In April 1945, for instance, Averell Harriman, U.S. ambassador to the Soviet Union (1943-1946) sent a series of telegrams from the Moscow Embassy to the State Department that presaged the new Cold War order. In one of the telegrams, Harriman cabled that,³⁰

we now have ample proof that the Soviet government views all matters from the standpoint of their own selfish interests. . . . The Communist Party or its associates everywhere are using economic difficulties in areas under our responsibility to promote Soviet concepts and policies and to undermine the influence of the Western allies.

Although Harriman's concern was mostly with the economic situation of Western Europe, he sent another telegram during the same period in which he discussed Russian infiltration in Brazil.³¹

In the Third World, U.S. concern with the revolutionary potential of underdevelopment did shape the country's foreign aid policies in the early days of the Cold War. President Truman's Four-Point Program, for instance, paralleled, albeit at a much smaller scale, the Marshall Plan. Truman, in fact, argued in his memoirs that "The program in action had the effect of disarming hostile propagandists and in discouraging the advance of both Communism and extreme nationalism."³² Economic assistance to the Third World, however, remained modest compared to its needs. President

Eisenhower, who had during the campaign trail accused Truman of neglecting Latin America, did little to build a developmentalist agenda toward Latin America. After taking office, President Eisenhower issued a new policy for the region, NSC 144/1, in which U.S.-Latin American relations were interpreted solely within the Cold War context. As Stephen Rabe argues, this new document "reflected the frustration administration officials felt about Latin America's failure to understand the dangers of international communism."³³ Unsurprisingly, during the 1950s the United States relied mostly on the supply of weapons for use against a possible Soviet invasion. In other words, external aggression dominated policy concerns over internal aggression. Such a distinction is important because it establishes geopolitical concerns over developmentalism.

The Post-war Doctrine of National Security

In Brazil, both strands (geopolitics and developmentalism) appeared at the same time in the military's post-war strategic thinking, but the former clearly prevailed in the way Brazil was integrated into U.S. containment policy. Like the European and Asian geopolitical zones, Brazil found itself part of a hemispheric defense system. Under this system, the United States did not differentiate between the various countries for fear of destroying the delicate balance of power in Latin America. As a result, the arms that flowed into Brazil in the early days of the Cold War were part of a Hemispheric geopolitical design, rather than a result of a distinct role Brazil was to play in

the new world order. The United States retained to itself the role of ultimate guardian of the Hemisphere.

Nevertheless, developmentalism survived because it found strong support among the civilian leadership. World War II had a contradictory effect on the Brazilian military. While it elevated Brazil's prestige because of its participation with the United States in Italy, it also made the Brazilian military realize the gap in capability between the two countries.³⁴ This gap reinforced the view in military circles that security could not be addressed without being linked to development. This realization led some of the key organizers of FEB, such as the artillery commander, General Cordeiro de Farias, to think of this linkage in institutional terms.

After the war, the military found itself divided along two factional lines. On the one hand, there were those, particularly in the army, who espoused a "nationalist" line of resisting the politics of uneven attraction. As McCann characterizes this group,³⁵

From the army's viewpoint, the American alliance was born more of the necessities and opportunities of the war situation than of common interests. The officer corps had a strong anti-imperialist current in its thinking which identified Great Britain and the United States as exploiters of Brazil's natural resources, who wished to keep the country underdeveloped.

On the other hand, there were those, particularly FEB veterans, who favored a close alliance with the United States based on the experience in World War II. FEB was quickly disbanded upon its return, but the participants continued

to play an important role in military politics. Those advocating closer military relations with Washington came to be viewed as the conservative. For instance, Marshal Humberto Castello Branco, FEB's operations officer, went on to become the military government's first president in 1964. The formulation of Brazil's Cold War policy reflected the conflict between the two sides for control over the government policy-making body. While the United States did not directly intervene in that conflict, the politics of uneven attraction certainly stacked the deck against the "nationalists" in favor of the conservative alternative. The latter, in turn, were responsible for developing the post-war intellectual basis of both geopolitics and developmentalism in the form of a Doctrine of National Security (DNS).

The word "doutrina" (doctrine) appears in the post-war period as a disposition toward influencing one's environment. As Jorge Boaventura points out, doctrine is not the same as theory.³⁶ The former attempts to observe and understand, but beyond that, it seeks to influence the object under observation. McCann suggests that upon their return from the war, FEB officers realized that "to convert their army into a modern one, they would have first to change Brazil."³⁷

It was under this conception that the Superior War College (Escola Superior de Guerra, ESG) was founded in 1949 and from which came the military's Doctrine of National Security. The first organizers of the ESG understood the following principle: the security of a nation depends more on the general potential of a nation than the military expression of its power.

The military conception of power is linked to aspects of defense, but security is a much wider concept.³⁸

General Cordeiro de Farias, the ESG first commander, recalls in an oral history interview that the expression "national security" first appeared in Brazil after the war within the context of an increasingly technological age (e.g., air power). Prior to 1939, the term used had been "national defense."³⁹ During a visit of American officers to help General Farias organize the ESG, the Brazilian officer placed the context of ESG to the visiting officers along domestic developmental lines. While officers in the United States viewed security along global lines, General Farias told his American guests that Brazilian officers were concerned with Brazil's underdeveloped state as a major national security issue.

In the first document published in 1949 by the ESG, entitled "Princípios fundamentais da ESG," (Fundamental Principles of ESG), Lt. Colonel Idílio Sardenberg argued that "National Security is a function more of the general potential of the Nation than of its military potential."⁴⁰ A corollary follows that the institutions in charge of National Security have the duty to ensure the development of the general potential of the nation. This conception of national security is a politico-military phenomenon in which military leaders take it upon themselves to actively participate in "national construction" in the political and economic senses, involving the military institution as "an instrument of a strategic vision."⁴¹

ESG sought to expose both officers and civilians to the major economic and political problems facing the nation. In the 1950s, they studied inflation and banking, among many other economic topics. Its alumni association, Associação dos Diplomados da Escola Superior de Guerra, served as a center for research and meetings, which gathered ESG graduates from many key sectors of the country's power structure. Heavily sponsored by the United States, ESG became the main intellectual center within the military in defining the country's National Security strategy.

Alfred Stepan identifies two main themes behind the ESG's doctrine. First, national security and development are closely interrelated.⁴² As he points out, "National security for the ESG was seen to a great extent as a function of rationally maximizing the output of the economy and minimizing all sources of cleavages and disunity within the country."⁴³ What this prescription entailed was the need for strong government and planning. The second theme is the internal pressures Third World countries face, both as a product of underdevelopment and the global ideological conflict. This theme underscores ESG's close ideological commitment to the U.S. containment policy.

If the need to view national security in developmental and local terms became such a central part of Brazilian strategic thought after the war, why was it not closely implemented in the 1950s? The answer to this question lies in the politics of uneven attraction. In the first decade of the Cold War, geopolitics dominated the character of the U.S.-Brazilian alliance, with

General Golbery do Couto e Silva as its master.⁴⁴ ESG's strategic thought reflected the U.S. program throughout Latin America of a continental defense against a possible Soviet invasion. As a key country in the region, Brazil's geopolitical mission was to secure U.S. interests in Latin America in hopes of obtaining preferential treatment among the local players.⁴⁵

The geographic importance of Brazil was recognized within the military as an essential component of U.S. global strategy. Admiral Dodsworth Martins of the Brazilian Navy, for instance, reminded his audience in a speech given in December 1956 that Brazil could no longer be isolated from global issues. Its geographic position gave the country natural command over the entrance to the North Atlantic through the Recife-Dakar "corridor." Admiral Martins warned his audience: "Either Brazil's foreign policy seeks to defend that space, what it ought to do, or world interests will try to do it on its own."⁴⁶

The United States and Brazil differed, however, on their conception of geopolitics. While the former viewed Brazil's geographic position as part of a hemispheric defense system, the latter saw itself as an important player in the new world scene by virtue of its geographic location. Developmentalism, therefore, could be used as a supplement to geopolitics because it would enhance the military preparedness of the country, given its geographic importance. In the politics of uneven attraction, however, the views of the powerful tend to become law.

Joseph Comblin even goes so far as to suggest that the Doctrine of National Security in Latin America is an import from the United States—imposed on the local setting to serve U.S. global purposes under the Cold War.⁴⁷ Comblin identifies 1945-1961, therefore, as the period in which the emphasis rested on an external enemy. Brazil's war preparations (in the event of a Soviet invasion of South America) should conform to U.S. global strategic planning. The application of American geopolitics in Brazil, as a result, followed a similar pattern as the one used against Germany in World War II.

Therefore, it is not surprising to see Stepan argue that initially ESG's developmentalist doctrine was not pervasive within the military.⁴⁸ It was not until the early 1960s, when the nation faced deep economic and political crises, that attention was turned to the issues of development and "internal subversion." The Cuban Revolution in 1959 was a watershed event in Latin American history because it diverted attention from external threats to "indirect aggression."⁴⁹ As the following chapter will show, turning inward made developmentalism the primary focus of national security policy-making, rather than a concern with geopolitics.

We can easily exaggerate the ESG's role in developing a National Security Doctrine that dominated the intellectual core of military thought in Brazil after the war. Several studies have emphasized its critical importance in Brazil's politics post-1964.⁵⁰ Nevertheless, we should view ESG more as a "laboratory of ideas,"⁵¹ an institution that provided the ideological unity

which brought the military to power in 1964. ESG's main purpose was to create an elite which could define the national interests of the country in the areas of security and development and subsequently translate them into concrete policies. Much of the myth surrounding the school's importance centered on Golbery's theoretical contribution. As its most famous associate, Golbery dominated the strategic policy of the military government with his views on geopolitics and his calculations of the importance of the South Atlantic in U.S. plans to fight a Soviet invasion of the Western Hemisphere.

Such a geopolitical concern led to an emphasis on the supply of weapons, rather than the development of economic capability. So eager were some U.S. policy-makers to ship weapons abroad, that in some cases there were bureaucratic disputes within the U.S. government over who should guide policy. Before the Department of Defense was set up in July 1947 to unify the different services' commands, James Forrestal records in his diaries that in 1945 Vice Admiral Richard S. Edwards, deputy chief of naval operations, approached him--then the Secretary of the Navy--about the Army's attempt to supply weapons to South America.⁵²

As Forrestal recalls,⁵³ the Army was in

pell-nell haste to equip all the South American countries with armaments--ground forces, air and navy--on the grounds that this is necessary to carry out the concept of the regional arrangement for reciprocal defense.

I talked to the Secretary of State over the telephone and he seemed unaware of what was going on. I remarked that it seemed to me that this was a matter which should be considered, and a decision made, only at the highest level.

Otherwise we might be promoting a series of wars in South America.

The newly created Department of Defense, along with Congressional leadership, did much to create a comprehensive policy on arms transfers that addressed the new bipolar international system. Eager to secure allegiance to its Western bloc, the United States developed a Military Assistance Program (MAP) which helped many Third World nations improve their military capability. While the security dimension had the Soviet threat as its core objective, MAP also helped establish U.S. dominance in many areas of the world arms market which had traditionally been under European control.

According to the MAP policy, a nation qualified to receive U.S. security help after ratification of a bilateral agreement of mutual assistance, based on the U.S. Mutual Security Act of 1951. One of the basis of MAP was that the aid recipients would supply the United States with strategic minerals and raw materials. Brazil's alliance with the United States sprang from this new policy toward military cooperation vis-à-vis the Third World. The Brazil-U.S. military agreement signed after the war reflected this evolving arms transfers policy. It is to this agreement that we now turn.

The 1952 Military Assistance Agreement

As part of its overall security policy, the United States proposed a new military agreement to the Brazilian government, which readily accepted it.⁵⁴ Brazil had made commitments in relation to its Western allegiance through

the Interamerican Treaty of Reciprocal Assistance (the 1947 Rio Treaty) and the IV Consultation Meeting of the Foreign Relations Ministers of the American States in March 1951. They, in turn, set the stage for a bilateral agreement between the United States and several Latin American countries.

The United States could count on the Brazilian military for strong support against Communism. For instance, Marshal Odylio Denys, the minister of war in 1960-61, addressed Communism in his memoirs as the "evil of the century" bent on conquering the world.⁵⁵ Marshal Denys even chided the great democracies (England and the United States) for naively allowing the Soviet Union to dominate certain countries in Europe after World War II.⁵⁶ The military officer goes further in arguing that some of those mistakes, not only in Europe but also in Latin America, Asia and Africa, have at times put into question "the ability of the United States to lead the Free World."⁵⁷ In fact, Marshal Denys even offers the possibility of Brazil in the future taking a more effective leadership role in the continent than that of the United States.

The military, however, was divided in the way the two countries should fight communism. Many in Brazil feared that the commitments established in the late 1940s and early 1950s would lead to Brazilian troops being sent to Korea. In reality, Brazil was in no financial and military condition to engage in another conflict overseas. Therefore, some were interested in securing foreign assistance to build Brazil's military capability, without worsening its domestic economic position. Under the direction of

General Goes Monteiro, the Brazilian Chief-of-Staff of the Armed Forces (EMFA), the first phase of the negotiations took place at the end of 1951 in Washington.⁵⁸ In the second phase, negotiations proceeded in Rio de Janeiro in the beginning of 1952 under the supervision of the then American ambassador to Brazil, Herschel Johnson. In Rio, the Minister of Foreign Relations, João Neves da Fontoura, headed the Brazilian negotiating team, while General Monteiro served as chief advisor.

The Brazilian minister did not consider the agreement a revolutionary move in the two countries' bilateral relations. Rather, it was viewed as an outgrowth of principles and obligations established through other multilateral commitments in which the two participated, such as the Rio Treaty signed on September 2, 1947, and the recommendations of the IV Consultation Meeting of the Foreign Relations Ministers of American States. The agenda in the meeting, which set the tone for U.S.-Latin American relations in the Cold War, reflected disparate interests.

While the United States emphasized security in military terms, Latin American countries sought financial assistance from its wealthy neighbor for development projects. Brazil, in fact, argued during the meeting that military defense would be useless if the countries could not achieve a level of development that could allow them to overcome basic internal difficulties.⁵⁹ In his first message to the Brazilian Congress in March 1951, President Vargas called on the government to take up the responsibility to alleviate the economic hardships due to World War II, while instituting policies that

shielded the local economy from the economic crisis the world faced since the end of the war.⁶⁰ Vargas hoped that the United States could take a leading role in supplying financial resources to reverse Latin America's worsening economic condition.

The Washington meeting served as the basis for the strengthening of U.S.-Brazilian relations. Since the 1940s, the two countries had considered economic assistance, but with no concrete steps. In 1950, following a proposal from Brazil, the two countries began considering the creation of a bilateral commission ("Comissão Mixta") to consider recommendations in the area of development projects. Under this context, Brazil considered as well the supply of strategic raw materials (monazite and rare earth compounds) in exchange for economic aid from the United States. There was also interest from the Brazilian side for the United States to develop industries in Brazil that could process these minerals before they were exported to the United States.⁶¹ On January 31, 1951, the same day Vargas took the oath of office as he returned to Brazilian politics after being forced out of power in 1945, he held private discussions with U.S. ambassador Herschel Johnson and with Nelson Rockefeller in which the new president expressed his interest in speeding the negotiations for the commission.⁶²

During the negotiations for the establishment of the Bilateral Commission, the United States explicitly requested Brazil to send troops to Korea, equipped, trained and paid for by the U.S. Treasury, but Brazil declined. The United Nations on June 27, 1951, also sent Brazil a request for

troops, which precipitated a meeting by the Brazilian National Security Council in July during which a consensus was reached to make a vague commitment to send troops. Vargas, however, changed the official notification and argued that despite Brazil's interest in participating militarily against "the totalitarian aggression in Korea," Brazil did not have the capability to make a significant contribution.⁶³ Therefore, Vargas argued, further negotiations were needed to discuss the Brazilian contribution to the war effort. His position was well received both in the United States and in the Brazilian political and military circles, which allowed the negotiations on economic assistance to proceed.⁶⁴

The "Comissão Mixta Brasil-Estados Unidos" (CMBEU), was formally installed on July 19, 1951, with a U.S. promise of foreign aid for projects in the areas of energy, transportation and agriculture. However, the emphasis on geopolitics rather than developmentalism in U.S. national security policy took its toll on CMBEU. The Commission lasted only until December 21, 1953--a little over two years of existence. Brazil's National Bank for Economic Development (BNDE), created in May 1952 as part of CMBEU's many projects, took over the Commission's functions in providing technical support to national projects under U.S. financing.

As the Eisenhower administration shifted its attention to other regions away from Latin America, the commission lost its strategic importance. For many Brazilians, this represented a blow to their developmental aspirations. The Brazilian Marshal, M. Poppe de Figueiredo, a military assistant in

CMBEU, vividly recounts his reaction in his memoirs. As he asserts, the Foreign Minister Fontoura announced the following to the Brazilian representation: "Gentlemen, we have just received a punch, without being able to fight back. The American government, without giving the slightest reason, has just pulled its representation in the Bilateral Commission."⁶⁵

The word punch ("bofetada" in Portuguese) stuck in Marshal Figueiredo's mind, as he recorded his feelings in his memoirs. He says he did not know at the time if it was anger or sadness. He recalls, however, that he reminded himself that: "we have to do everything, us Brazilians, leaving resentment aside and working hard, to make Brazil very economically strong so as not to allow these circumstances to be repeated."⁶⁶ The title of his memoirs, Brasil, um gigante que despertou (Brazil, an awakened giant), is indicative of his concern with Brazil's vulnerable position in the international system.

Sérgio Besserman Vianna points to the change in U.S. administration as one of several critical factors influencing the U.S. decision to abandon the Bilateral Commission arrangement.⁶⁷ The Eisenhower administration suspended Truman's Point-IV Program, which served as the driving force behind economic assistance to the Third World. The new administration, instead, turned to Europe and Asia as the main focus of the evolving Cold War. Whenever developmental issues appeared in the 1950s, they were always viewed within the context of the Cold War. As the dominant player, the United States was able to set the hemispheric agenda, which centered on a

military solution to the Soviet threat. Divided over the issue of regionalism and globalism, the United States opted for the latter, thus steering the inter-American community to U.S. global scheme.⁶⁸

Brazil had presented its weak economic and military position as its main argument against the troop request for the Korean conflict. As a result, such a condition became the basis from which the military agreement between the two countries was negotiated. The United States, however, showed no interest in addressing issues of military industrialization, as it had with Western Europe through technology transfer agreements. Rather, the agreement reinforced the old division of labor under which the developed nation specialized in manufactured products, while the underdeveloped country supplied the raw materials. Paulo Kramer suggests that in the opinion of the Brazilian High Command (Alto Comando), the 1952 agreement signed within the context of the Cold War and the Korean War, had actually served to block the transfer of technology, thus becoming an obstacle for the modernization of the Armed Forces.⁶⁹

Such an exchange found loud opposition within the nationalist sectors of the military, particularly in the Clube Militar, an organization that served as a political forum for the Brazilian military. Through its meetings, publications, and debates, the military let the civilian circles know the political climate within the military. The Clube Militar was created in 1887 amid a general debate about the role of the military in Brazilian political life. The participation of important military leaders in the organization had

turned it into a "political barometer" of the Army,⁷⁰ whose leanings the civilian political leadership closely observed before embarking on any policy direction. In fact, the organization played a critical intellectual role in the Proclamation of the Republic in 1889.

Every two years elections were held for the leadership of the organization. After World War II, elections became contentious battles for the definition of Brazil's position in the world. The organization became the center of conflict as to the country's place in the new Cold War order. Nationalist military officers were particularly interested in such issues as ownership of Brazilian oil reserves, development of steel production, and economic sovereignty. General Francisco Teixeira, a Vargas' supporter associated with the nationalist movement within the organization, argued in an oral history interview that much of the nationalist aspirations of the group came to be mistakenly associated with the Communist position (i.e., anti-imperialism). This association, in turn, strengthened the conservatives who favored closer links with the United States.⁷¹ Some conservative officers, such as Antônio Carlos Murici, attacked the nationalists as advancing a "false nationalism," as a cover for their real Communist leanings.⁷²

The first test of the clash between the two sides came in 1950 during that year's election for the Clube leadership. The nationalist side counted on the candidacy of General Estillac Leal for president and General Horta Barbosa for vice-president. The nationalists' victory set the stage for a conservative

reaction which would have serious consequences to the stability of the political system. In fact, when Vargas was elected in 1950, the military considered intervening against his inauguration. Aristides Leal, a leader in the organization in the late 1930s, recounts that after Vargas was elected, Estillac called a meeting of the club's leaders and declared "Candidato eleito é candidato empossado!" meaning that a candidate who was elected would indeed take office. Aristides adds that the conservative generals "had to swallow" that decision.⁷³ For Estillac, the support for Vargas paid off as he was appointed Minister of War. That appointment, nevertheless, brought the Vargas regime closer to the nationalist military camp, which supplied even more ammunition for the conservative officers to use against the president.⁷⁴

In July 1950, the Revista do Clube Militar published an article against Brazil's participation in the Korean War, which prompted the suspension of the magazine for several months.⁷⁵ The article also criticized the United States for failing to rely more closely on UN Security Council decisions in relation to intervention in Korea. Estillac, as president of the Clube, called a meeting of the Clube and unsuccessfully attempted to gain a vote censuring the editorial decisions of the publication. Paulo Pinto Guedes recalls that many nationalist officers were already resenting Estillac's association with the incoming Vargas' regime, given the government's support for a military agreement with the United States.⁷⁶ Estillac found himself associated with the nationalist group, a motive for suspicion by the conservative officers,

while at the same time participating in a government that was slowly pulled into the U.S. sphere of influence.

Foreign Minister Fontoura argued at the time that what made the new military agreement distinct from the others was the availability of funds by the U.S. government for the purchase of military equipment, while Brazil committed itself to supply the United States with essential strategic raw materials.⁷⁷ The Brazilian minister argued in his annual report to the president that the agreement would greatly benefit the recipient nation in the field of military supplies and economic development, although the latter was never fully elaborated.

While Brazil welcomed the possibility of increasing the supply of weapons to a weak military, its linkage to the export of strategic minerals constituted a source of suspicions and division within the Brazilian political and military circles. The reference in the agreement (Article 4, Paragraph 1) to the U.S. Mutual Security Act of 1951 committed Brazil to follow an American law, without any determination as to the limits and consequences of that commitment.⁷⁸

Caught between the two sides, the governmental national security policies favoring the conservatives and the nationalist opposition in the Clube, General Estillac resigned his position as Minister of War in March 1952, alleging that he had been deliberately kept out of the negotiating process, which was not far from the truth. In April 1952, during a brief interview with reporters at a Brazilian airport, General Estillac publicly

commented: "Besides, I never knew of anything about the commitments, even the military ones, of Brazil with other nations, regardless of which [nations] they were."⁷⁹

The negotiations for the agreement came at a time when Brazil's newly elected president, Vargas, was attempting to establish the country's domestic and international support. Feared by the United States in the 1930s and early 1940s for its relations with Germany, the new Vargas administration sought to strike a balance between nationalist tendencies and conservative positions. The ambiguity reflected the fact that the two positions formed the dual military support for the government.⁸⁰ Affonso Henriques even goes so far as to portray Vargas as a Machiavellian figure, dividing the military so as to weaken it.⁸¹ Regardless of Vargas' motives, his very attempt at nurturing opposing orientations within the government proved to be the root of its collapse in 1954.

The weakening of the nationalist position within the government due to Estillac's resignation also indicated the inroads of the conservatives in defining Brazil's Cold War foreign policy. During the same month of his resignation, the conservatives conducted a brutal purge of suspected Communists within the military, which included many nationalists mistakenly identified as Soviet sympathizers. What we see in Brazilian military politics in the early 1950s is the slow drift toward a strong alliance with the U.S. Cold War aims. The establishment of this new relationship became evident during the elections to the leadership of the Clube Militar in

May 1952. Generals Estillac and Horta Barbosa ran for reelection, while the conservative generals Alcides Etchegoyen and Néelson de Melo ran under the "Cruzada Democrática" (Democratic Crusade) slogan.⁸² Among the Cruzada's leaders were Castello Branco--FEB's operations officer--and Golbery, close associates in the ESG. The conservative victory delegitimized the nationalist position within the military, setting the stage for a more concerted conservative pressure on the Vargas government toward closer relations with the United States. The Cruzada group established itself as the intellectual center of Brazil's national security policy.⁸³

Despite nationalist objections, the agreement was signed in March 15, 1952. At that time, Brazil was the fourth Latin American government to sign such an agreement, after Ecuador, Peru and Cuba. During the signing ceremony, Fontoura exalted the agreement as a solid step toward the defense of the Hemisphere. Much of his words reflected U.S. concern with defending the Continent against the threat of international Communism.⁸⁴

The nationalist-conservative debate continued from within the military into the Brazilian Congress, which had to ratify the agreement. Supporters began their own effort to speed the process. The following day after its signature, General Goes Monteiro publicly reassured the country that Brazil had no obligation under the agreement to send troops to Korea. As he pointed out, "Everything that was agreed upon and signed is entirely in accordance with the note of the National Security Council [meeting] of July 30 of last year. And nothing else."⁸⁵

General Monteiro was making a reference to the NSC meeting following UN troop requests, as discussed earlier. On the diplomatic side, Fontoura reminded the Brazilian congressmembers of the urgency in approving the treaty so that the country could receive the promised aid from the United States. In turn, some members of Congress accused the minister of being an agent of foreign interests.⁸⁶ Fontoura fought back by accusing some of the legislators of playing the "Communist game" in criticizing the treaty. In the Chamber of Deputies, Lobo Carneiro vehemently objected to what he called the subordination of Brazil to U.S. interests in the former's commitment to ship strategic raw materials.

Political and military leaders in the United States also did their share of promoting the military agreement as bringing about closer relations between the two countries. On October 22, 1952, the Republican presidential candidate, General Dwight Eisenhower, sent a letter to the editor of Diário da Noite of Rio de Janeiro, Austregésilo de Athayde. "The Americas have basic interests in common, including the guarding of their territorial integrity and sovereign politics, their ideals of liberty and progress," Eisenhower wrote. "The defense pact is destined to function as a guarantee of stability and well-being for our two nations and the hemisphere."⁸⁷ On December 8, 1952, Admiral William M. Fechteler, U.S. Navy chief of naval operations, arrived in Rio de Janeiro during which he defended the Brazilian Navy as a strong ally. "The Brazil-United States military pact," he added, "is one more step in the direction of cooperation between the two countries."⁸⁸ Both Eisenhower

and Fechteler reminded their audience of the close association of the two nations fighting side by side during World War II.

President Vargas did not actively become involved in the Congressional debate for fear of placing his prestige and leadership on the line, tied to the success or failure of the treaty in the Brazilian Congress. Instead, he ironically relied on Afonso Arinos, leader of the conservative UDN party in Congress, to gather support for the final vote. In his message to the Congress in the opening legislative session in March 1953, Vargas only underlined the fact that the treaty would represent the receipt of badly needed technical assistance for its armed forces. In exchange, he argued, Brazil would supply under "normal commercial transactions" certain raw materials for the defense of the Continent.⁸⁹ After much debate in the Brazilian Congress, the agreement was finally approved in March of 1953, without a single amendment to it.

If the main purpose of the agreement was to modernize Brazil's armed forces so as to defend itself, its impact went beyond security considerations against the Soviet Union. The agreement brought Brazil's armed forces into a closer alliance with U.S. policy, creating mechanisms that the U.S. Department of Defense could use to gain more influence in the Brazilian military. That influence could be particularly gained indirectly through the training of Brazilian officers in U.S. academies, an effective way of controlling the very "security culture" of the recipient.⁹⁰

The agreement made little attempt to transfer military technology, unlike the agreements the United States had signed with Western European countries. Rather, it emphasized Brazil's reliance on U.S. equipment. With the growing sophistication of the weapons after the war, Brazil found it increasingly difficult to replace parts without depending on U.S. supplies. By the end of the 1950s and beginning of the early 1960s, practically all of the equipment used by Brazil's military was supplied through the 1952 agreement, with the exception of locally produced light armament and ammunition.⁹¹ The successful passage of the agreement granted the United States the strong position of aligning the Brazilian military more closely with U.S. foreign policy objectives. While Brazil did not send troops to Korea, the nationalist movement within the military was effectively tamed.

It is important to note that the decline of the nationalist faction did not necessarily mean the ascension of the ESG's conservatives to important posts. President Juscelino Kubitschek (1956-1961) picked Gen. Lott as his Minister of War, a centrist figure within the military. Gen Lott was responsible for placing strict controls over the political activities of the Clube Militar, thus demobilizing any tendency toward a golpe (coup attempt). During the 1956 elections in the Clube, Gen. Lott circulated a "ministerial notice" forbidding any campaigning during work hours in military establishments, while reaffirming his Ministry's neutrality.⁹² As a result, the Clube's role as a "political barometer" of the Army declined in the second half of the 1950s.

The control over the military gave President Kubitschek the necessary stability to implement his own developmentalist policies, which, in turn, pleased ESG followers--those in favor of a close linkage between development and national security. At the same time, Kubitschek had been adamant about Petrobrás, reaffirming the nationalists' "O Petróleo é Nosso!" position.⁹³ The nationalists also influenced Kubitschek's decision to allow the United States the use of the Fernando de Noronha Island as a missile tracking station only if Brazilian officials were allowed in all sectors of the base.⁹⁴ The balance reached between the two factions would last until the end of his administration.

As the Brazilian economy began to collapse in the early 1960s and the conservatives feared a "Communist takeover," the balance of power would tilt in favor of a direct military intervention in politics and the strengthening of the U.S.-Brazilian ideological alliance--the topic of the next chapter. The legacy of the 1950s rested in the acceptance by Brazil of its role as a supplier of strategic raw materials to the United States, while the latter transferred some weapons, but with no significant effect on the military capability of the country. After all, the United States was responding to a Hemispheric policy which had to take into consideration Argentina's power position in South America. Therefore, Brazil's hopes of preferential treatment were never realized through the 1952 agreement.

Concluding Remarks: Dependency and Nationalism

After World War II, the United States had to face a wave of nationalism in the developing world as, in Stephen G. Rabe's words, "the most dynamic new feature in international affairs in the post-war world."⁹⁵ Faced with the ensuing confrontation with the Soviet Union, the United States interpreted Third World nationalism in cold-war terms.⁹⁶ The immediate impact of the new Cold War order in the late 1940s and 1950s was to tame Brazilian nationalism and draw Brazil's national security policy close to U.S. strategic interests. The ideological affinity with the West, coupled with the perceived possibility of a Soviet invasion, downplayed the importance of long-range developmental plans in favor of the immediate geopolitical threat.

Nationalism was easily discarded as Communist-inspired, and the conservatives were able to offer their conception of national security as the best expressions of Brazil's role in the new international order. However, based on the analysis above, one sees that even ESG's doctrine did not coincide with U.S. strategic goals. ESG's vision was much broader than the United States was willing to permit. Therefore, the doctrine would only find its full expression in the 1960s and 1970s, once the U.S. control over the international system eased.

Once the nationalists were pushed aside--particularly after General Estillac's resignation--the patterns of dependency were clearly established with Brazil's international role diminished and with it its aspirations of mobility. Brazil's importance for the United States did not again become an

issue until the early 1960s, as Brazil faced an economic and political crisis. By that time, the conservatives seized the opportunity to step into power and brought with them the ESG's Doctrine of National Security. This ascendancy marks the beginning of a new emphasis on internal issues, with development taking center stage.

Concern for the weak economic condition found supporters in both nationalist and conservative camps. During the IV Meeting of Consultation called by Washington in March 1951, in which the unfolding Cold War was addressed, Vargas' position in the discussions was that Latin American countries feared mostly "internal aggression," which could only be prevented through the improvement of the standard of living of the local population.⁹⁷ Such an argument ironically became the cornerstone of the security-development linkage of the conservative military which took power in the 1960s, as the following chapter will show. Despite such a concern with internal sources of national insecurity, the United States continued to emphasize the geopolitical dimension of the new world order. Brazil, and Latin America, played a marginal role in the Cold War scenario, as envisioned in Washington. Therefore, it came as no surprise--albeit painfully recognized in Brazil--that the region received little economic assistance.

The 1952 agreement placed Brazil as a critical supplier of raw materials for the Cold War effort without addressing the developmental aspirations of the country. While Brazil sought the agreement because of the potential economic returns in the form of assistance to build its military capability as

an international player, its role was relegated to one of support, rather than an ally. Even such supporting role was dependent on U.S. shifting interests. With the discovery of large deposits of manazite sands in Idaho and California in the 1950s, the United States lost interest in additional purchases of rare earth compounds from Brazil.⁹⁸

This shift, in turn, undermined the 1952 agreement for the export of Brazilian strategic resources. As Teixeira Soares argues, "The United States was only interested that Brazil continue to be a colonial market, supplier of raw materials."⁹⁹ Soares reminds us that while Brazil took this role, Argentina was building its nuclear industry in Ushuaia, in Tierra del Fuego, with the help of German and Austrian experts.¹⁰⁰

The U.S.-Brazilian military agreement, in this sense, set Brazil several years back in developing an industrial capability that could be translated into a military one as well. So intent Washington was in promoting hemispheric initiative, that the United States undermined its special relationship with Brazil. "By courting Argentina and treating all American republics equally," Haines suggests, "U.S. officials offended Brazilian leaders and weakened the traditional bilateral ties between their nations."¹⁰¹ It can be argued that by constraining Brazil into a raw material supplier role, the United States only sowed the seeds of later rebellion, as the next chapter will show.

Notes

1. Stanley Hilton, "Brazil and the Post-Versailles World: Elite Images and Foreign Policy Strategy, 1919-1929," Journal of Latin American Studies 12 (November 1980): 347-8.

2. Translation from the original Portuguese in Setembrino de Carvalho, Memórias; Dados para a História do Brasil (Rio de Janeiro, n.p., 1950), 242.

3. Hilton, "Brazil and the Post-Versailles World," 346.

4. Ibid., 350.

5. For a guide to the literature on the politics of industrialization during the 1930s, see Gamaliel Parruci, Jr., and Steven E. Sanderson, "Presidential Succession, Economic Crisis, and Populist Resurgence in Brazil," Studies in Comparative International Development 24 (Fall 1989): 30-50.

6. Frank D. McCann, Jr., "The Brazilian Army and the Pursuit of Arms Independence, 1899-1979," in War, Business and World Military-Industrial Complexes, ed. Cooling, B. Franklin (Port Washington, N.Y.: Kennikat Press, 1981), 171-93.

7. Alexandre de S. C. Barros, "Brazil," in Arms Production in Developing Countries, ed. James Everett Katz (Lexington, Mass.: Lexington Books, 1984), 75.

8. McCann, "The Brazilian Army and the Pursuit," 189.

9. Mike Tharp, "A Divine Wind in Disguise," U.S. News & World Report, 25 June 1990, 44.

10. As quoted in Tharp, "A Divine Wind," 44.

11. Gerson Moura, Autonomia na Dependência; A Política Externa Brasileira de 1935 a 1942 (Rio de Janeiro: Editora Nova Fronteira, 1980), 56.

12. Stanley E. Hilton, Brazil and the Great Powers, 1930-1939. The Politics of Trade Rivalry (Austin: University of Texas Press, 1975).

13. Roberto Gambini, O duplo jogo de Getúlio Vargas: influência americana e alemã no Estado Novo (São Paulo: Edições Símbolo, 1977).

14. Moura, Autonomia na Dependência.

15. Gambini, O duplo jogo, 139.

16. Ibid., 121; Hilton, Brazil and the Great Powers, 187.

17. Frank D. McCann, Jr., "The Brazilian Army and the Problem of Mission, 1939-1964," Journal of Latin American Studies 12 (May 1980): 117.

18. Hilton, Brazil and the Great Powers, 189.

19. Cláudio Moreira Bento, "Getúlio Vargas e a Evolução da Doutrina do Exército (1930-45)," Revista do Instituto Histórico e Geográfico Brasileiro 339 (April-June 1983): 66.

20. Teixeira Soares, O Brasil no Conflito Ideológico Global (1937-1979) (Rio de Janeiro: Civilização Brasileira, 1980), 143.

21. Eliézer Rizzo de Oliveira, "A Doutrina de Segurança Nacional: Pensamento Político e Projeto Estratégico," in Militares: Pensamento e Ação Política, ed. Eliézer Rizzo de Oliveira (Campinas, SP: Papirus, 1987), 55.

22. Gambini, O duplo jogo, 147.

23. Ibid., 141.

24. Ibid., 149.

25. McCann, "The Brazilian Army and the Problem," 119; Brazil's alliance during the war created the ironic position of Vargas' dictatorship fighting others overseas for an alliance of democracies. Paulo Pinto Guedes, in an oral history account of the period, pointed out that this anomaly occupied much of the political discussion of those Brazilian troops fighting in Europe; see Valentina da Rocha Lima, Getúlio: uma história oral (Rio de Janeiro: Editora Record, 1986), 216. Guedes, a major military figure in the 1950s, fought in Italy from July 1944 to May 1945 as an assistant to General Zenóbio da Costa.

26. For a good review of the early Cold War years in Latin America, see David Green, "The Cold War Comes to Latin America," in Barton J. Bernstein, ed., Politics and Policies of the Truman Administration (Chicago: Quadrangle Books, 1970), 149-95.

27. Gambini, O duplo jogo, 135.

28. Soares, O Brasil no Conflito, 89.

29. Lars Schoultz, National Security and United States Policy toward Latin America (Princeton: Princeton University Press, 1987).

30. Walter Millis, ed., The Forrestal Diaries (New York: The Viking Press, 1951), 39.

31. Ibid.

32. Harry S. Truman, Memoirs, vol. 2 (Garden City, NY: Doubleday & Company, Inc., 1956), 237.

33. Stephen G. Rabe, Eisenhower and Latin America: The Foreign Policy of Anticommunism (Chapel Hill: The University of North Carolina Press, 1988), 32.

34. McCann, "The Brazilian Army and the Problem," 120.

35. Ibid., 117.

36. Jorge Boaventura, "A Doutrina de Segurança Nacional," in Eliézer Rizzo de Oliveira, ed., Militares: Pensamento e Ação Política (Campinas, SP: Papirus, 1987), 46.

37. McCann, "The Brazilian Army and the Problem," 126.

38. Boaventura, "A Doutrina de Segurança Nacional," 47.

39. Rocha Lima, Getúlio: uma história oral, 231.

40. Translation from the original Portuguese cited in Oliveira, "A Doutrina de Segurança Nacional," 63.

41. Ibid., 65.

42. Alfred Stepan, The Military in Politics: Changing Patterns in Brazil (Princeton: Princeton University Press, 1971).

43. Ibid., 179.

44. See, for instance, Golbery do Couto e Silva, Planejamento Estratégico (Rio de Janeiro: Biblioteca do Exército Editora, 1955); and Golbery do Couto e Silva, Conjuntura Política Nacional: O Poder Executivo e Geopolítica do Brasil, 3rd ed (Rio de Janeiro: Livraria José Olympio Editora, 1981).

45. See, for instance, Gerald K. Haines, The Americanization of Brazil: A Study of U.S. Cold War Diplomacy in the Third World, 1945-1954 (Wilmington, DE: Scholarly Resources Inc., 1989), p. 33; in which the author argues: "[Brazilian officials] aspired to a special position in U.S. foreign policy and believed that they had earned such a position through their 'undiviating record of friendship for the United States.'"

46. Translation from the original Portuguese in Revista Marítima Brasileira, "O Compromisso da Defesa Mútua do Continente Americano," 77 (January-March 1957): 196.

47. Joseph Comblin, A ideologia da Segurança Nacional, trans. A. Veiga Fialho, 3rd ed. (Rio de Janeiro: Editora Civilização Brasileira, 1980).

48. Stepan, The Military in Politics, 180.

49. Schoultz, National Security and United States Policy; Rabe, Eisenhower and Latin America.

50. See, for instance, Antônio de Arruda, ESG--História de sua Doutrina (São Paulo: Edições GRD/INL/MEC, 1980); and Stepan, The Military in Politics.

51. Shiguenoli Miyamoto, "Escola Superior de Guerra: Mito e Realidade," Política e Estratégia 5 (January-March 1987): 76-97.

52. Forrestal went on to become the first U.S. Secretary of Defense (1947-1949), leaving the office due to illness.

53. Millis, The Forrestal Diaries, 115.

54. Ministério das Relações Exteriores, Relatório (Brasília: Serviço de Publicações, 1952), 188.

55. Odylio Denys, Ciclo Revolucionário Brasileiro, Memórias (Rio de Janeiro: Editora Nova Fronteira, 1980), 77.

56. Marshal Denys offers a not-so-reassuring solution to the Communist threat when he argues that "Chile is the one that knows how to treat them [the Communists] as they deserve" (translation from the original Portuguese, p. 77)--a clear reference to General Pinochet's brutal repression after 1973.

57. Translation from the original Portuguese in Denys, Ciclo Revolucionário, 151.

58. General Monteiro in the 1930s had been an avid supporter of Brazil's arms acquisition from Germany. See Hilton, Brazil and the Great Powers, 187.

59. Maria Celina Soares D'Araújo, O Segundo Governo Vargas, 1951-1954 (Rio de Janeiro: Zahar Editores, 1982), 141.

60. Luthero Vargas, Getúlio Vargas: A Revolução Inacabada (Rio de Janeiro: no publisher cited, 1988), 196.

61. Soares D'Araújo, O Segundo Governo Vargas, 143.

62. Vargas, Getúlio Vargas, 197.

63. Ibid.

64. Soares D'Araújo, O Segundo Governo Vargas, 143.

65. Translation from the original Portuguese in M. Poppe de Figueiredo, Brasil, um gigante que despertou (Rio de Janeiro: Símbolo Agência de Comunicação, 1973), 211.

66. Ibid.; translation from the original Portuguese.

67. Sérgio Besserman Vianna, "As relações Brasil-EUA e a política econômica do segundo governo Vargas," Revista Brasileira de Economia 40 (July-September 1986): 197.

68. Federico G. Gil, Latin American-United States Relations (New York: Harcourt Brace Jovanovich, Inc., 1971), 189.

69. Paulo Kramer, "As Relações Militares Brasil-Estados Unidos," Política e Estratégia 4 (January-March 1986): 45.

70. Maria Victoria de Mesquita Benevides, O governo Kubitschek: desenvolvimento econômico e estabilidade política, 1956-1961 (Rio de Janeiro: Editora Paz e Terra, 1976), 159.

71. Rocha Lima, Getúlio: uma história oral, 223.

72. Ibid., 224.

73. Ibid., 225.

74. Ibid., 226.

75. Soares D'Araújo, O Segundo Governo Vargas, 152.
76. Rocha Lima, Getúlio: uma história oral, 229.
77. Ministério das Relações Exteriores, Relatório, 189.
78. Clóvis Brigagão, "Cancelamento do Acordo," Revista Brasileira de Política Internacional 21 (1978): 106.
79. Translated from the original Portuguese as quoted in Affonso Henriques, Ascensão e Queda de Getúlio Vargas, vol. 3. (Rio de Janeiro and São Paulo: Distribuidora Record, n.d.), 114.
80. Soares D'Araújo, O Segundo Governo Vargas, 131.
81. Henriques Ascensão e Queda, 109-11.
82. Soares D'Araújo, O Segundo Governo Vargas, 155.
83. For a good guide to the secondary literature on the conservative-nationalist debate during this period, see Haines, The Americanization of Brazil.
84. "Assinado o Acordo Brasil-E.U.A." O Estado de S. Paulo, 16 March 1952, p. 1.
85. Translated from the original Portuguese as quoted in "O Acordo Entre o Brasil e os Estados Unidos," O Estado de S. Paulo, 18 March 1952, p. 1.
86. Soares D'Araújo, O Segundo Governo Vargas, 153.
87. Complete text of the letter printed in "Never Will This New World Undertake Aggression!" Brazil 27 (First Quarter 1953): 6.
88. Portuguese summary text of Admiral Fechteler's press conference in "Almirante William M. Fechteler," Revista Marítima Brasileira 72 (October-December 1952): 398-402.
89. Soares D'Araújo, O Segundo Governo Vargas, 154.
90. Brigagão, "Cancelamento do Acordo," 107; Rabe, Eisenhower and Latin America, 36.
91. Brigagão, "Cancelamento do Acordo," 107-8.

92. Benevides, O governo Kubitschek, 158.

93. Ibid., 173.

94. Ibid., 174.

95. Rabe, Eisenhower and Latin America, 30.

96. Green, "The Cold War," 165

97. Vargas, Getúlio Vargas, 197.

98. Hines, The Americanization of Brazil, 103.

99. Translated from the original Portuguese in Soares, O Brasil no Conflito, 139.

100. Hines in The Americanization of Brazil, 108, makes a similar argument: "What Washington desired was a neocolonial relationship, with Brazil providing the raw materials and the United States processing these raw materials for its industries and maintaining Brazil as a major market for its finished goods."

101. Ibid., 25.

CHAPTER 4

THE "GREAT-POWER" PROJECT, 1960s-1970s

The political and economic dominance of the United States in Latin America after World War II left Brazil with little diplomatic flexibility to pursue its long-time aspiration of great-power status. Though resentful of the United States' neglect of the region's developmental needs, Brazilian policy-makers in the 1950s could not turn to other sources of aid, such as the Soviet Union, without inviting U.S. retaliation. At the same time, the United States continued to focus much of its foreign-policy attention and resources on Western Europe and Asia--the Cold War frontline. Plagued with economic difficulties, Brazil had no alternative but to accept its minor role in the world.

International politics, however, is not static, and as new conditions arose, the Brazilian leadership responded to opportunities which significantly transformed U.S.-Brazilian military relations. A crucial event in Latin American history, and one which helped Brazil's position, was the Cuban Revolution in 1959. This event redirected U.S. attention to Latin America. For the first time, a country in the "American backyard" had fallen into Communist hands. Fidel Castro's ascension conjured up nightmarish scenarios of a domino effect throughout the Hemisphere. It came as no

surprise that the United States stepped up its supply to Latin America of both economic (Alliance for Progress) and military resources in its efforts to combat leftist insurgencies. Another important development in the 1960s was the expansion of the European arms industry, which supplied Brazilian officials with alternative sources of armaments. Brazil was not spared in the U.S. counter-revolution strategy. The military government that came to power in 1964 received strong support from Washington. Whether the United States played a role in the overthrow of the civilian government or not, the coup brought the two countries closer together ideologically.

Counterinsurgency was not a new topic in Brazilian military policy. Marshal Odylio Denys, minister of war in 1960, mentions in his memoirs that in the 1940s under his directorship, the Military Police trained for urban guerilla warfare.¹ What was significant about the period following the Cuban Revolution was the U.S. strategy of fighting the "enemy within" through alliances with conservative military regimes. One of Marshal Denys' first decisions as minister of war was to meet with influential officers and tell them: "The political situation of the country with the spread of Communism requires our unity to be able to fight it."² Denys continued in his memoirs,³

It is not only Brazil, it is the entire Christian community that is before a decisive historic crossroad. A nation, of the American community, has already strayed away from the road of our history, of our culture and of our faith. The fact of Cuba is there before everybody's eyes. And our military chiefs know perfectly well that the Cubanization of Brazil is moving forward, conducted by the communist fifth-column and its sympathizers.

With the resignation of President Jânio Quadros in 1961, the three military ministers (Navy, Air Force, and War) publicly voiced their opposition to Vice-President João Goulart's plan to take over as the new constitutional president. On August 30, 1961, they issued a manifesto in which they accused Goulart of sympathizing with the East.⁴ This manifesto helped trigger the political crisis which would culminate in the military takeover in March 1964. Leaders of the "1964 Revolution," as the coup in Brazil came to be called, reaffirmed the country's commitment to the West, while purging political and civil figures of suspected leftist "agitators." At the international level, Brazilian troops were sent to the Dominican Republic in 1965 under the U.S.-led "Inter-American Peace Force" to foil a "Communist take-over."⁵

Yet, it was during the military regime in the 1970s that U.S.-Brazilian relations deteriorated to the point of Brazil cancelling the 1952 military assistance agreement. This chapter explores that dramatic shift, using the earlier scheme of agency and structural determinants of national security policy-making. While Chapter 3 characterized the international system as a constraining factor in Brazil's developmental aspirations, this chapter investigates the enabling elements of structural change. In the case of U.S.-Brazilian military relations, the breakdown of the tight bipolar order (with European recovery and Third World disillusionment with the superpowers) gave Brazil the opportunity to pursue its developmental aspirations outside the U.S. sphere of influence.

The loosening of the bipolar structure does not necessarily explain the subsequent conflict between the U.S. and Brazil. Rather, the loosening provided an "enabling environment" in which Brazilian policy-makers could aggressively pursue the transformation of its military capability. The impetus for development was found in the Doctrine of National Security, which inspired the military regime to fulfill a long-time national aspiration of "great-power" status. It is at this agent level--Brazil's military industrialization efforts--that we find the source of U.S.-Brazilian conflict.

Shifts in Brazil's Foreign Policy Direction

The ideological fervor of the Cold War--both from the left and from the right--reached Brazil in the early 1960s, as new political forces attempted to reshape the country's foreign policy. Building on President Kubitschek's Pan-American vision, President Jânio Quadros championed an "independent foreign policy" which came into direct confrontation with domestic conservative political forces favoring a close alliance with the United States. When 17 African countries became independent in 1960, the Quadros administration began fashioning thoughts of expanding Brazil's growing international importance in the form of closer relations with the newly independent countries.⁶ Quadros' "independent foreign policy" sought to improve and increase Brazil's relations with Africa, while distancing itself from Portugal's colonial policy.⁷

This policy change represented a major shift for Brazil. Historically, Brazil had kept its African policy closely aligned with Portugal's colonial interests. Thus, Quadros' new rhetoric against the Portuguese presence in Africa improved Brazil's image in that continent. While the political gain overseas was considerable, at home Quadros' ideological tendencies toward the nonaligned movement alienated some parts of society that saw Brazil as a traditional Western country.

At a time of growing concern with insurgent movements in Latin America, an "independent" foreign policy bode ill to Washington. In 1960, when President Dwight Eisenhower was visiting South America, he came into direct contact with these political changes. As he recounts in his memoirs,⁸

Entering Rio de Janeiro the next day, we met crowds of spectacular size, estimated by the police at a million. Along a five-mile motorcade route, which took an hour to travel, people jammed the roadways and streets and filled office windows. Along the way I heard one band after another play 'God Bless America,' but it was less comforting to see a sign proclaiming: We like Ike; We like Fidel too.

President Eisenhower's account reflects the growing concern in Washington with the internal dimension to the Cold War. The ability of Communist movements to thrive in an underdeveloped setting became the dominant theme of U.S. foreign policy in the region during the 1960s.

The U.S. interest in countering insurgencies in Latin America changed the character of military relations in the 1960s. Increasingly, the United States

emphasized the internal dimension of security in the region,⁹ rather than its previous hemispheric defense scope that dominated the 1950s under the Rio Treaty and the Organization of American States. Military expenditures in Latin America were viewed as a "resource diversion" from development to defense.¹⁰ Military Assistance Program (MAP) resources, in turn, were used to support internal security, while at the macro-level, the hemispheric defense concept fell into disfavor. Latin American countries were confronted with this shift in U.S. military assistance policy at the same time that they faced the obsolescence of major weapons systems--many of them World War II vintage. The United States' ability to control the flow of sophisticated weapons to Latin America was first aided by the region's own economic difficulties.

The U.S. security emphasis on internal security during the 1960s proved limiting for the military regime in Brazil. The application of the Doctrine of National Security was much wider in scope than the simple stamping out of "agitators." In the military's grandiose vision of Brazil, "prestige" weapons were part of its increasing role in international politics, under the guidance of the Escola Superior de Guerra (ESG). The war college closely influenced the first military government of Humberto de Alencar Castello Branco--himself one of ESG's first members.¹¹

The government's emphasis on stabilizing the economy and promoting fast industrialization under an import-substitution agenda drew on the ESG's doctrine of linking development to security. The importance of geopolitics

declined after 1964, while the projection of power internationally gained favor.¹²

By the end of the 1960s, as several Latin American countries pursued a vigorous nationalist policy of military modernization, European competition became a cause for concern in Washington. The race for more sophisticated military fighter aircraft is an excellent example of the United States' weakening position in the region. For two decades, the United States had attempted to keep the region from "breaching the supersonic barrier."¹³ The United States had opposed the introduction of the Northrop's F-5 Freedom Fighter into the region because critics saw the sale to Latin America as, in Ronfeldt and Sereseres' words, "a prime example of wasteful military expenditures for unnecessarily sophisticated equipment at a time when generous U.S. grants and credits were being extended for economic development."¹⁴ Peru's purchase in 1968 of the expensive supersonic Mirage 5 from France shattered U.S. arms control policy toward the region. Subsequently, the Nixon administration authorized the credit sale of F-5Es to many South American countries--including Brazil--as an attempt to recover some of the market share lost to European suppliers.¹⁵

The evolution of the Brazilian national security perspective is complex, because it divorces the country from the Cold-War scenario while reaffirming it. In other words, the military regime came to power so as to preserve Brazil's position as a member of the "Western" community, while at the same time progressively distancing itself from the U.S. Cold-War

strategy of stressing the "enemy within" in Latin America. The very success of suppression of "subversive" movements in the 1960s, led to the paradoxical dilution of the national security focus on internal counter-insurgency. At the international level, therefore, there emerges a new strategic vision of Brazil as an awakening giant.¹⁶ It is from this period that Brazil begins a concerted effort to develop its own arms industry so as to alleviate its acute dependence on U.S. military supplies.

By the end of the 1960s, under both Costa e Silva (1967-1969) and Médici (1969-1974) administrations, the Brazilian military had effectively suppressed internal radical opposition. ESG's influence in government policy-making declined somewhat, since neither Costa e Silva nor Médici had attended the war college. But the economic boom of the 1968-72 period strengthened "great-power" aspirations, thus popularizing once again ESG's Doctrine of National Security. President Ernesto Geisel (1974-1978) took advantage of the economic expansion to pursue an aggressive foreign policy under the banner of "responsible pragmatism."¹⁷ In the early years of Geisel's presidency, his Foreign Minister Antônio Azeredo da Silveira told the United States: "An emergent power, with a wide range of interests in many fields, cannot allow rigid alignments, rooted in the past, to limit her action on the world stage."¹⁸

The evolution of the military regime brought an internationalist agenda, while the United States was primarily interested in securing the region from more Communist take-overs--"the enemy within."¹⁹ The divergent national-security policies once again clashed, just as they had in the

1940s and 1950s. Albert Fishlow characterized the 1970s as the "missing relationship," during which the United States was "seemingly blind to the profound internal transition" Brazil was undergoing.²⁰ This characterization resembles Hilton's argument that in the 1950s the United States "lost" Brazil because of its failure to address Brazil's developmental needs.²¹

In the 1970s, Brazil was attempting to transform real economic gains into an improved status in the international system. While Brazil sought increasing military sophistication to reflect its growing status in world politics, the United States concentrated on counter-insurgency equipment for internal purposes alone. Figure 4-1 illustrates the divergent perspectives in U.S. and Brazilian national security policy, both in the 1940s-50s and 1960s-70s. The reversal in perspectives from one period to the next furnishes important clues to the seeds of rebellion in Brazilian national security policy. Riding on the successful stabilization of the economy and an aggressive industrialization effort, Brazil was able to undergo a process of import substitution for weapons acquisition.

While in the 1950s Brazil acquiesced to U.S. national-security prerogatives because of its weak bargaining power, during the 1960s and 1970s renewed differences in policy objectives between the two sides offered a new dynamic in bilateral relations. Central to this conflict was Brazil's economic boom in the late 1960s, which altered its perception of itself as a third-rate power. The role of perception is critical--as the following section will discuss--because it provides the basis from which the conception of an

	UNITED STATES	BRAZIL
1940s-50s	hemispheric defense pact	local development
1960s-70s	local development ("enemy within")	global-power status (internationalism)

Figure 4-1. Shifts in Foreign-Policy Focus (Brazil and the United States)

"unjust" world order is realized. The United States, as a major player in world politics, received much Brazilian criticism in the late 1960s and early 1970s for its role in "freezing" mobility in the international system.

Economic Growth and Power Perception

Following economic and political stabilization in the mid-1960s, the Brazilian economy began to expand at an accelerated rate, as Table 4-1 shows. This period, particularly between 1968 and 1972, came to be known as the "economic miracle." High growth rates brought the country to the spotlight, both in the academic and the diplomatic worlds.²² Caught in the optimism of this period, Marshal M. Poppe Figueiredo, for instance, in the final words of his memoirs, praised the historical mission of the Armed Forces in playing its guardian role, assuring that the nation was marching toward "its destiny of world great power."²³

Studies about Brazil's great power potential were not new. Gen. Antônio de Souza Júnior, for instance, wrote O Brasil e a Terceira Guerra Mundial in 1959 in which he argued that great-power status was a realistic goal.²⁴ In fact, he expected Brazil to play an important role in the Third World War, as the title of the book suggests. The general's evidence, however, was solely based on Brazil's demographic attributes and dubious "industrial" indicators, such as iron ore reserves (ranked third in the world) and the number of kilometers flown by air transports (also ranked third). In the same list of "accomplishments," Brazil's steel production ranks 21st and

TABLE 4-1

Real Growth in Gross Domestic Product (GDP) and Industrial Production
(Annual Percentage Change)

<u>Year</u>	<u>GDP</u>	<u>Industrial Production</u>
1950	6.5	11.3
1951	5.9	6.4
1952	8.7	5.0
1953	2.5	8.7
1954	10.1	8.7
1955	6.9	10.6
1956	3.2	6.9
1957	8.1	5.7
1958	7.7	16.2
1959	5.6	11.9
1960	9.7	9.6
1961	10.3	10.6
1962	5.2	7.8
1963	1.6	0.2
1964	2.9	5.2
1965	2.7	-4.7
1966	3.8	11.7
1967	4.8	3.0
1968	11.2	15.5
1969	10.0	10.8
1970	8.3	10.5
1971	12.0	11.8
1972	11.1	12.7
1973	14.0	16.0
1974	9.5	9.1
1975	5.6	5.6
1976	9.7	12.5
1977	5.4	3.9
1978	4.8	7.4
1979	6.7	6.6
1980	7.9	7.9
1981	-1.9	-5.4
1982	1.4	0.4
1983	-3.3	-7.0
1984	0.0	5.9
1985	8.3	8.3

Source: "Estagnação Tecnológica e a Perda do Futuro," Problemas Brasileiros 24 (March-April 1987): 45.

petroleum extraction ranks 26th, both essential components of any industrial power. General Souza's study clearly treated Brazil as a potential world power, given hopes of economic expansion after World War II.

The literature in the 1970s and early 1980s continued to emphasize the potential of Brazil's raw resources, but it also highlighted the political stability brought about by the country's military regime. Roger W. Fontaine, for instance, argues, "Brazil alone seems to have the requisite size, population, resources, and political stability to be a serious candidate for major power status by the end of the century."²⁵ Reference to political stability was certainly related to the importance of the military regime in providing guidance in developmental policy. The economic boom of the late 1960s seemed to justify the analysts' expectation that Brazil eventually would attain great-power status. As a result, the number of studies about Brazil as an "emerging power" proliferated.

William Perry addressed the "elements of Brazil's international strategy" under which it is "only through sustained economic growth, after all, that Brazil can hope to realize her domestic and international aspirations."²⁶ The recipe for achieving great-power status, in Perry's view of the country's economic strategy, "involves the acquisition of the technology, capital and expertise necessary to expand production, the establishment of new markets for the goods that are to be produced, and the assurance of a steady supply of the materials required to fuel the national economy."²⁷ Perry, like many other proponents of the agent-centered argument,

concentrates on domestic attributes to conceptualize a country's position in the international system. Wayne A. Selcher's edited volume, Brazil in the International System: The Rise of a Middle Power, devotes many of its chapters to the discussion of ranking analyses.²⁸ Selcher himself contributed a chapter entitled, "Brazil in the World: A Ranking Analysis of Capability and Status Measure." In the same volume, Max G. Manwaring's discussion of Brazilian military power centers on a "capability analysis."

Not surprisingly, once Brazil's economy collapsed in the early 1980s, the "Brazil as an emerging power" literature vanished with it, since the development-power linkage had broken down. This emphasis on context (the relationship between rise/decline in economic performance and power analysis) does not necessarily mean to suggest that in the Brazilian case the linkage was established mainly at the "fantasy" level. Quite the opposite: policy-makers acted on the perception that economic growth conferred real power in international politics. Therefore, they expected the international community to acknowledge the "fact" of Brazil's new status in the world.

The role of perception is critical here because it provides an additional clue to the paradox of national insecurity that we have discussed in previous chapters. Given real changes in the economic base of the country, policy-makers expanded their international trade linkages so as to capitalize on Brazil's perceived status enhancement. U.S. inability to keep pace with this change in role perception led to increasing conflict with Brazil. Upset with the United States' continuing treatment of Latin America as a single

bloc, rather than establishing a "special relationship" with Brazil as the new regional power, Brazilian national security policy-makers broke away from "automatic alignment." This chapter addresses this process of liberation as it unfolded in the 1970s.

Particularly during the economic miracle years, the country also benefited from the international community's acknowledgment of Brazil's potential future power. As Organski argues, "The expectation of future power may also be traded upon, and a nation expected to be great tomorrow may find its present power position improved for that reason."²⁹ One way to assess the impact expectation has on a nation's power position is to look for clues in the foreign-policy behavior of the emerging power. One of the characteristics of power perception is the increasing dissatisfaction of the emerging power with the existing order. For rising powers, public statements become an important medium through which dissatisfaction can be voiced. The inability to cause systemic change, in fact, should bring higher levels of dissatisfaction, which would, in turn, become evident in the level of rhetoric in the emerging powers' foreign policy.

Public forums, such as the United Nations, have become common grounds on which dissatisfied powers in the post-World War II period have aired their complaints. Brazilian statements at the UN General Assembly plenary meetings often carry a distinct interpretation of the country's positions on key issues. The Brazilian case is especially useful in detecting dissatisfaction because--by virtue of tradition--Brazil always delivers the

opening speech of the UN plenary debates every year (around September). Brazil's interpretation of the most pressing issues to be debated during the year reveals what constitutes the country's priorities in international relations. Issues of power and cooperation, and conflict and development, often appear in Brazil's opening speeches--each carrying the country's foreign policy agenda.

As an emerging power, Brazil's foreign policy increasingly combated the view of spheres of influence, as it attempted to break away from U.S. hegemony in Latin America. In its 1968 opening speech, Brazil angrily expressed the view that "we cannot build international peace and security on the precarious foundation of spheres of influence or on the delimitation of power along arbitrary geographical lines."³⁰ As the non-proliferation issue came to dominate the UN agenda toward the end of the 1960s, Brazil voiced defiance at its opening speeches. The country had already signed the 1967 Treaty for the Prohibition of Nuclear Weapons in Latin America, which allowed for the development of nuclear technology for peaceful purposes. The 1969 Non-Proliferation Treaty, however, drew Brazilian opposition because it did not prescribe nuclear technology development for peaceful purposes in Third-World nations. As a result, Brazil, like other middle powers (e.g., Argentina and India), refused to sign it.

As the United Nations celebrated its 25th anniversary in 1970, Brazil used the opportunity to once again address issues related to the distribution of power. In the speech, the country called for a revision of the UN Charter in

order to account for recent developments in the world economy, which undoubtedly included Brazil's economic power increase. As the speech suggested,³¹

We see the revision as an essential step forward. But there is a danger that the prevailing conditions in the world, where power is used every day--political power, economic power, military power, scientific and technological power--may force us a step backwards, and a new Charter under these conditions may take the form of just one more element for freezing world power, as one of the factors for the maintenance of the status quo.

Two aspects in this statement should be emphasized. First, the reference to the "prevailing conditions" in the world underlines the frustration an emerging power feels at its inability to change the existing power distribution (under which power is applied to a variety of areas, such as the ones mentioned in the statement). Second, there is a fear that, because of its emergence in the world scene, dominant powers will attempt to "freeze world power," which translates into the maintenance of the status quo (freezing the prevailing distribution of power among dominant nations). Brazil, therefore, used the anniversary speech to call for reforms in the international system to account for mobility.

In fact, the call for reforms in the 1970 speech became the preamble for a major statement the following year, when Brazil offered "a rebuttal of the so-called political realism used as a means of imposing and justifying new modes of the freezing of power, as well as the implicit or explicit establishment of spheres of influence."³² Brazil denounced "political

realism" as an approach to international relations often used by great powers to justify the status quo. In the 1971 speech, therefore, Brazil rejected the freezing of power as an attempt by dominant nations to impose an oligopoly of force: "Since historical events are rendering obsolete the bipolarization which dominated international relations, its alternative cannot be a new power system [sic] also to be based on a small number of nations claiming de facto hegemony over the rest of the world; rather it must be an international community organized in conformity with the broader and more equitable provisions of the purposes and principles of the Charter."³³

The spirit of détente, which came to dominate the UN agenda in the early 1970s, had a specific application to Brazil's perception of its gained economic power. Brazil embraced détente cautiously because of its potential conservative application: "the success of détente will be contingent on our capacity to expand it so that its long-term aims are not lost sight of and so that it does not become an instrument for the imposition of hegemonic arrangements."³⁴

Revision of the international order should take into consideration the emerging powers in a new political consensus. In its 1972 speech, Brazil argued that,³⁵

Domestic development concurrently broadens international obligations; growth increases international responsibilities, and, consequently, commitments and duties. . . . True political realism consists in trying to construct a permanent international order founded on collective consensus.

By 1974, as the oil crisis shook the Brazilian economy along with the developing world, Brazil tamed its confrontational tone and stressed in its UN speeches the need for co-operation: "We are experiencing all these problems in Latin America and we are seeking solutions to them based on the principles of harmony of interests, peaceful understanding and enlightened co-operation, principles that this Organization has established as the foundations of international life."³⁶

Despite the economic crisis, Brazil did not abandon its belief that it would be playing a major role in world politics in the years to come by virtue of its impressive growth during the "miracle years." As the 1974 speech suggested,³⁷

the country has grown internally and thus it has grown in terms of its presence, its potentialities and its responsibilities in the international field. While this is happening, we try to avoid the traps of history by not repeating the errors of nations which became great, many times at the expense of others. We want our presence in a wider-ranging international scene to be accompanied by the preservation of the primordial ethical values that have been and that continue to be the bases of our foreign policy.

This statement, in fact, parallels Organski's argument that internal transformation often leads to a country's growing perception of its role in the international scene. Whether its power can be put to use in international relations, however, also depends on the country's ability to sustain high levels of industrialization. Brazil did not, as the country slipped into economic crisis in the mid-1970s. Although relatively high rates of GNP

growth compared to many advanced industrial societies were maintained through the end of the 1970s, such a performance was accomplished mainly through heavy borrowing from foreign creditors. As a result, the economic woes sowed the seeds of the debt crisis, which would dominate Brazil's foreign policy in the 1980s.

Studies in the late 1970s reflected the impact of the economic crisis on Brazil's status in the world. Wayne A. Selcher, for instance, applied Organski's capability approach to the study of Brazilian development and concluded that "Brazil appears to be much stronger in the attributes of static or latent power potential than in its current relative degree of influence and political success abroad."³⁸ Because South America is not a focus of competition between the two superpowers, the author found that Brazil's status in the continent had limited transfer value onto the global level. Therefore, "Brazil's ambitions for greater global influence are conditioned by its middle power status in a continent of marginal strategic importance and remote from the major currents of world politics."³⁹ Selcher wrote at a time when Brazil's "economic boom" had vanished and there was increased skepticism about the country's emergence as a global power. Unable to close the "power distance gap," Selcher saw Brazil's role in the international system as limited to one of a middle-power status.

It is curious to notice that while Brazil in its UN speeches often rejected "spheres of influence" as an international relations principle at the systemic level, its neighbors did not seem so convinced that Brazil's growing power

would not result in South America becoming its own regional sphere of influence. William Perry, for instance, argued that in South America there was a consensus on the isolation and containment of Brazil:⁴⁰

An expansionist tendency on the part of Brazil has long been an object of concern in South America, and the ability to express this tendency concretely now seems to be at hand. [There exists a widespread fear that] if Brazil comes to dominate the continent, she will adopt an attitude not unlike that of other great powers toward their respective spheres of influence.

Brazil's penetration of the Amazon Basin (and its ill-defined frontiers) through the development of better communication systems caused concern for Peru, Colombia, and Venezuela. As Perry suggested, "increased development of the communication and transportation infrastructure of the Brazilian Amazon would make the application of military pressure against neighboring states a far easier proposition."⁴¹ In fact, Brazilian support for Guyana in its territorial dispute with Venezuela has added strong concern for the latter. During a flare-up of disputes in 1970, there were reports of a Brazilian troop build-up in the northern Amazon.

Brazil's sphere of influence in international relations came to be widely viewed as encompassing Bolivia, Paraguay, and Uruguay--a zone of Brazilian economic penetration. Bolivia, in particular, received most of the resources from Brazil's 1971 aid program, igniting fear in Peru that it might, in Yale Ferguson's words, "eventually seek an outlet to the Pacific, perhaps by supporting Bolivia's ambition to regain the corridor to the sea it lost in the

nineteenth-century War of the Pacific."⁴² Debate in Brazil's neighboring countries centered on economic, military and political vulnerability, not to the United States (as Latin American concern has traditionally been geared toward) but to Brazilian economic power on the continent.

During the 1971 presidential elections in Uruguay, the Brazilian fear of an Allende-style alliance victory led to rumors that the Brazilian army would intervene if the "Broad Front" came to power.⁴³ In the end, the dreaded "invasion" did not take place because the conservatives won the election. While the impact of the rumors on election results is difficult to assess, the significance of the rumors lies in fact that Brazil was accused of the same foreign policy behavior that South America had come to expect from U.S. dealings in Latin American elections (e.g., Allende's election in 1970).

In 1975, when Brazil signed several economic agreements with Uruguay, the latter insisted that the bilateral exchange should encourage "interdependence without subordination."⁴⁴ Economic penetration often meant signing agreements that clearly established permanent ties between the two economies. For instance, Bolivia's agreement in 1974 to the construction of a massive pipeline to carry natural gas to São Paulo, and Brazil's agreement during the same year with Paraguay to build the world's largest hydroelectric plant on the Paraná River, were seen in Argentina as dangerous signs of Brazil's growing economic penetration in other South American countries.

While Brazil's relations with smaller powers in South America often led to issues of subordination and spheres of influence, the Argentine response to Brazil's emerging power took a more radical approach through the development of a nuclear program and the building of Latin America's first nuclear power plant in 1974. Brazil responded with the largest nuclear agreement (1975) in history with West Germany, which included the building of eight nuclear power plants, a uranium enrichment facility, and a processing installation capable of producing plutonium (crucial for the development of atomic weapons).⁴⁵ This agreement, in turn, became a serious source of conflict with Washington, as President Jimmy Carter attempted to dissuade the Germans from carrying through the nuclear pact.

Brazil's sphere of influence was not limited to the Southern Cone; it also extended across the Atlantic toward the African continent. The Cold War had a direct impact on Brazil's African policy because of the now-independent continent's growing interest in Marxism. For instance, Brazil's most famous geopolitical thinker, General Golbery do Couto e Silva, in his assessment of the country's spheres of influence, stated that the security of Brazil was closely related to events in Africa.⁴⁶ J. O. de Meira Penna, another important Brazilian geopolitician, even referred to an "African Monroe Doctrine," which could protect Brazilian geopolitical interests in the South Atlantic.⁴⁷

Brazil's economic boom had a particular impact on its Africa policy, as policymakers came to see the continent as an area of potential economic

penetration. The independence movement of Portugal's colonies in the early 1970s, therefore, became an opportune way for Brazil to increase its influence on the continent because of common cultural and language ties. In 1974, when Guinea-Bissau became independent, Brazil quickly recognized its independence, even before Portugal, a fact of which the government proudly boasted.⁴⁸

Brazil's high-profile presence in the newly created nation included, for instance, participation in literacy campaigns and the installation of a telecommunications system, along with the training of technicians to operate it.⁴⁹ The independence of the last four Portuguese colonies in 1975 (Cape Verde, São Tomé e Príncipe, Angola, and Mozambique) was similarly used by Brazil to foster its growing importance on the continent. In Cape Verde, for instance, Brazilian Air Force planes supplied the country with 20 tons of food and medical goods right before the country's independence, followed by a naval shipment of 250 tons of similar products and clothes.⁵⁰

By recognizing Angola's Marxist government in November 1975, Brazil openly challenged U.S. interests in the African continent.⁵¹ This recognition further separated Brazil's foreign policy from the Cold War geopolitical thought of the 1960s, while establishing the country as an independent power in Africa. In fact, Rosenbaum and Tyler goes even to the extreme of speculating that "the anxiety felt by some South Americans about Brazil's expanding power may soon spread to West Africa and other parts of the Third World."⁵² However, the worry over Brazil's "independent"

foreign policy was felt particularly in Washington. U.S.-Brazilian consultations on developments in Africa intensified at the highest levels.

In a visit to Brazil in 1978, U.S. National Security Adviser Zbigniew Brzezinski met with General Golbery to discuss the two countries' positions on Africa. During the meeting, General Golbery expressed Brazil's interest in a special relationship with Angola and Mozambique. Upon his return to the United States, Brzezinski sent a letter to General Golbery expressing his appreciation for the exchange of views: "Our countries have parallel interests regarding Africa's evolution. . . . The future of southern Africa is certainly not a matter of indifference either to this country or, I would guess, to yours."⁵³ In the same letter, Brzezinski attached a brief analysis of the Soviet and Cuban military presence in Africa and said he would welcome any comments that the Brazilian general might have on the subject.

Under "responsible pragmatism," Brazil's foreign policy interests went beyond the Cold War to include the commercial benefits of penetrating the African market. In fact, trade with Angola flourished after that country's independence. While in 1975 Brazil exported 1.6 tons of products to that country, in 1976 the tonnage increased to about 14 tons. Mozambique, which imported about 1,000 tons of products from Brazil in 1975, increased its tonnage to 1,566 in 1976.⁵⁴ Interestingly enough, two days after Brazil's recognition of Angolan independence, a newspaper in Mozambique mentioned that the Brazilian government,⁵⁵

will be able to supply the young nation [Angola] with the necessary help to get its economy going, gravely affected by the exit of the Portuguese. No language barrier separates the two countries, and very high Angolan officials affirm that the population of the country feels more affinity with the Brazilians than with the Portuguese.

The economic boom of the late 1960s not only helped transform Brazil's strategic relations with the Third World, but also its domestic process of military industrialization. These external and internal factors came into direct conflict with the United States, as the latter attempted to channel Brazilian ascendancy toward U.S. strategic goals. The following section discusses the early phase of the military regime's development of an arms industry, while the last section of this chapter discusses U.S.-Brazilian military relations in the late 1970s in more detail.

Indigenous Arms Production

Studies of Brazil's arms industry have tended to reflect the same agent-centered argument that dominated the literature of the 1970s about Brazil as an "emerging power." Roberto Pereira, for instance, argues that what is happening in Brazil is a repetition of a phenomenon that occurs every time a nation starts to develop industrially: eventually there is established a type of agreement between the State--in this case the military class--and the industrialists. He warns us: "This is a process from which we cannot escape and that we must not forget when analyzing the Brazilian problem."⁵⁶ Renato P. Dagnino sees the armament industry in Brazil as a

natural outgrowth of capitalist development at home. Following a certain industrial, political, and technological maturing level, there comes a "decision" to institute a military industry. Dagnino, however, makes no attempt to relate Brazil's arms industry to a "world capitalist system" and the position of the state in that international system--although he accords some influence to geopolitics, or the "Brazil Great Power" project.⁵⁷

A paramount task to any reinterpretation of Brazil's development of an arms industry rests in placing weapons production within a context that considers both structuralist and agent-centered arguments. This study and the paradox of national insecurity permit such an approach by combining the state's geopolitical agenda (autonomy) with the growth of a local industrialist class interested in weapons production. Such an industrialist class is closely associated to international economic processes, which set the context of dependence and competitiveness at the structural level. The paradox reveals the importance of technology transfers under the NIDL to the development of an "indigenous" arms industry--closely integrated to the world economy. While the agent-centered aspect of arms production is explored in this chapter in the context of local economic expansion, the next chapter will discuss the structural dimension of national insecurity. It is at the structural level that the paradox is fully uncovered.

The development of an "indigenous" arms industry, therefore, involves the competing interests of the state (geopolitics--a central concern in the agent-centered argument), and the expansion of world capitalism under

the NIDL and the subsequent emergence of a local "bellico-industrialist" sector (a central concern in the structuralist argument).⁵⁸ In the Brazilian case, an analysis of the agent-structure interrelations in the arms industry has to address both the state's national security exigencies found in the "Great-Power" project of the military regime and the growing bellico-industrialist sector's demand for sophisticated technological inputs.

Prior to the 1964 "revolution," Brazil possessed a modest arms industry with weak links between the Armed Forces and the private sector. Pereira lists three reasons: (1) American supplies were readily available and cheap; (2) Brazilian officers were trained in the United States with American equipment; and (3) Brazilian officers were skeptical of the local product in terms of quality.⁵⁹

Under the military regime, the need for a linkage arose. While the American equipment had already become obsolete, the U.S. government was reluctant to supply replacement parts for the new military government. U.S. military aid to Brazil had been cut during the political crisis of 1963, but after the coup, the United States continued to be a reluctant supplier, as Table 4-2 indicates. Combined with a rising military budget after 1964, Brazil's dependence on external military aid was sharply reduced to levels lower than those of the years immediately after the signing of the 1952 military assistance agreement with the United States. This reduction would further move Brazil inward toward the development of its own military industry.

TABLE 4-2

Military Grant Aid to Brazil
(\$ million, at 1960 prices and 1960 exchange-rates)

<u>Year</u>	(MGA) Military Grant Aid	(ME) Military Expenditures	<u>(MGA)/(ME)</u>
1950	-	219.4	-
1951	-	246.2	-
1952	13.0	238.8	5.44%
1953	26.1	241.7	10.80
1954	26.1	235.3	11.09
1955	26.1	268.4	9.72
1956	26.1	323.8	8.06
1957	23.7	359.1	6.60
1958	21.2	367.6	5.76
1959	24.8	288.8	8.58
1960	26.7	267.3	9.99
1961	33.3	245.1	13.58
1962	27.2	264.6	10.27
1963	14.1	259.8	5.50
1964	14.1	272.8	5.16
1965	11.3	406.9	2.77
1966	12.6	340.5	3.70
1967	14.2	287.5	4.93

Source: Stockholm International Peace Research Institute (SIPRI), World Armaments and Disarmament, SIPRI Yearbook 1969-1970 (London: Gerald Duckworth & Co. Ltd., 1970), 286-7.

Another factor contributing to a rethinking in Brazilian military industrialization strategy was the increasing budgetary burden of arms imports. The structure of arms imports financing had changed over the decades since World War II. While in the 1950s grants prevailed under the U.S. Military Assistance Program (MAP), by the 1970s credits and cash-payments had become the most important forms of transaction, leading to a fast credit burden.⁶⁰ The United States by the late 1960s incrementally substituted its Latin American assistance programs for Foreign Military Sales (FMS), as Table 4-3 indicates. Carlyle Maw, Deputy Secretary of State for Security Assistance, in fact, recommended that all military help to Latin America should cease by the years 1975-76, despite the Pentagon's opposition to the recommendation.⁶¹

It was at this juncture that Brazil announced in 1967 its rearmament policy, with an emphasis on local production.⁶² In developing an indigenous arms industry, the military leaders did not seek to build huge stockpiles of weapons. Rather, Brazil wanted to develop "the productive capacity and technology to have weapons readily available whenever necessary."⁶³ This "silent" rearmament policy rested on the development of a private sector from which the state could extract resources (in this case, weapons) in the event of a national security threat (both at home and abroad). The Brazilian arms industry model, therefore, became a "dual alliance": At the institutional level, research was conducted by the government in the several research agencies of the Armed Forces; and at the productive level, the private (or

TABLE 4-3

U.S. Arms Transfers to Latin America, 1963-72
(\$ million, at current prices)

<u>Recipient</u>	(1963-1967)			(1968-1972)		
	<u>Grants</u>	<u>Sales</u>	<u>Total</u>	<u>Grants</u>	<u>Sales</u>	<u>Total</u>
Argentina	33	27	60	1	68	69
Brazil	53	57	110	1	75	76
Chile	35	8	43	*	31	31
Colombia	43	1	44	9	7	16
Ecuador	14	1	15	4	2	6
Guatemala	8	2	10	8	12	20
Peru	39	10	49	*	7	7
Venezuela	*	43	43	*	52	52
All other	44	3	47	32	7	39
<u>TOTAL</u>	269	152	421	55	261	316

Source: Luigi Einaudi, Hans Heymann, Jr., David Ronfeldt and Cesar Sereseres, "Arms Transfers to Latin America: Toward A Policy of Mutual Respect," Department of State Report R-1173-DOS (Santa Monica, Calif.: The Rand Corporation, June 1973), 13.

Note: Grants include both MAP materiel amounts and excess stocks. Sales include both FMS cash and credit sales and reflect orders rather than deliveries. The symbol "*" indicates less than \$500,000.

semi-private) sector was in charge of applying the newly created technology toward the development of the hardware.⁶⁴

São José dos Campos (52 miles north of São Paulo city) has become a major military-industry complex where the Centro Tecnológico Aeroespacial, (Aerospace Technical Center, or CTA) and arms producers such as Embraer and Engesa are located.⁶⁵ Under U.S. influence, Brazil set up in November 1945 plans for the center under the direction of an organizing committee. In March 1947, the first group of experts was officially appointed, followed by the construction of the center in São José dos Campos, in the northeast of São Paulo state, as an aeronautical technical center. Construction of the facilities for ITA (the Aeronautical Technological Institute) was completed in 1950, under the cooperation from the Massachusetts Institute of Technology (MIT) of which ITA was modeled.

By 1953, CTA had been fully built. Under the 1971 administrative reform of the Air Ministry, aerospace replaced aeronautical in the name of the center. Today, CTA has about 7,000 employees (80 percent of whom are civilians and 20 percent military) and five institutes: ITA, IPD (Research and Development Institute), IAE (Space Activities Institute), IFI (Industrial Coordination and Fostering Institute), and IEAv (Advanced Studies Institute). Figure 4-2 shows how the institutes are integrated.

The technology developed at CTA has made Brazilian companies competitive worldwide. For instance, CTA developed techniques in the preparation of high-resistance steel for rocket motors. This technology was

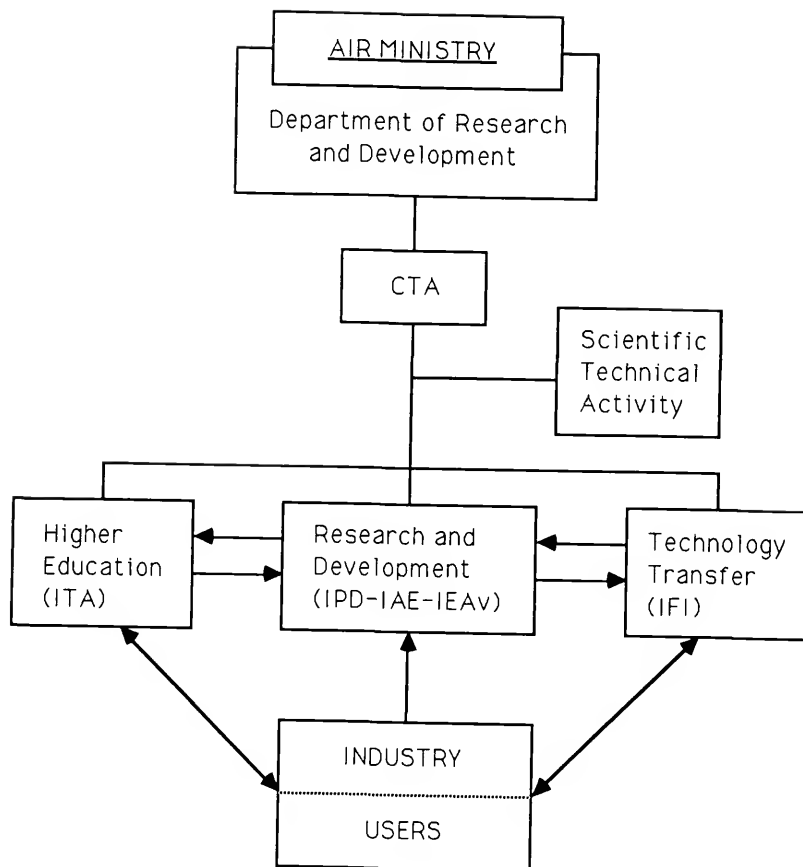


Figure 4-2. Flow Chart of Aerospace Technical Center (CTA)

Source: CTA.

passed to a private company, Eletrometal, which won an international bid to build the shock-absorbers of the landing gear of Boeing Corp.'s aircraft.⁶⁶

Pereira argues that this model is not, as many think, a statist one.⁶⁷ The military is involved in export licensing and production contracts, but the participation is minimal in production terms. Even in the state-owned companies, such as Embraer, many private companies are involved in production. For instance, 300 private industries are involved in the supply of components for the production of Embraer's Bandeirantes airplanes.⁶⁸ Reliance on the private sector for investment in arms production can be seen, for instance, by tracing the country's military expenditures over time. During the impressive expansion of the arms industry from 1974-1984, as Table 4-4 shows, military expenditure remained at a stable level. In fact, it went down as a percentage of both GNP and total government expenditures.

The importance of the private sector in arms production points to the critical role of economic factors such as competitiveness in the market place. In 1975, Brazilian military officials created the Indústria do Material Bélico do Brasil (IMBEL), a state-owned holding of seven major state producers and 55 private companies intended to serve primarily the Army. In 1982, the enterprise was semi-privatized under claims that the private sector was better able to run it in a competitive market. In the early 1980s, over 90 percent of IMBEL's production, including armored vehicles, sophisticated rocket systems, and missiles were exported to 50 countries.

TABLE 4-4

Brazil's Military Expenditures, 1974-84
(\$ million, constant 1983 dollars)

<u>Year</u>	<u>(ME) Military Expenditure</u>	<u>(GNP) Gross National Product</u>	<u>(CGE) Central Government Expenditure</u>	<u>ME/GNP</u>	<u>ME/CGE</u>
1974	1,814	145,800	27,080	1.2%	6.7%
1975	1,726	153,000	31,010	1.1	5.6
1976	1,996	167,700	34,150	1.2	5.8
1977	1,692	177,000	42,400	1.0	4.0
1978	1,556	185,700	45,100	0.8	3.5
1979	1,419	197,000	44,750	0.7	3.2
1980	1,441	210,100	51,020	0.7	2.8
1981	1,424	204,900	55,550	0.7	2.6
1982	1,917	204,600	59,650	0.9	3.2
1983	1,726	196,600	61,420	0.9	2.8
1984	1,719	205,200	60,570	0.8	2.8

Source: U.S. Arms Control and Disarmament Agency (ACDA), World Military Expenditures and Arms Transfers, 1986 (Washington, D.C.: Government Printing Office, 1987), 67.

The local arms industry gained further support after President Ernesto Geisel (1974-1978) came to office. His newly picked *Chefe do Estado Maior do Exército*, General Fritz de Azevedo Manso, announced in his first speech that the military would from now on follow a procurement policy based, as far as possible, on materiel produced in Brazil. The announcement of the policy was fundamental for the development of a Brazilian military industry, because it was from this point on that the companies which were already producing armaments could count on a reasonable degree of certainty that there would be consumption of their products.⁶⁹

The replacement of aging weapons in the 1970s coincided with the rising price of oil. The oil shock, in the words of Ferrari et al., "gave Brazil a powerful incentive to build up its own arms industry in order to gain revenue through sales abroad and to prevent future dependence on foreign arms suppliers."⁷⁰ Although by the 1980s 80 percent of the Brazilian military's needs were filled by indigenous production, the domestic market proved too small for production to remain profitable. The decision to enter the export market in the mid-1970s was part of an economic strategy very similar to the decision by some European producers in the 1960s, as Chapter 2 showed. The high cost of weapons production could be extensively reduced if companies were allowed to reach economies of scale. Instead of competing directly with the developed countries' share of the sophisticated arms market, Brazilian producers sought to create its own niche with conventional weapons. Brazilian arms were targeted for the Third-World consumer,

following four conditions: good quality, low prices, a low level of sophistication, and no political strings attached.⁷¹

The economic importance of the arms industry led Clóvis Brigagão to call the enterprise the "security market" ("o mercado de segurança") because it blurred the distinction between geopolitical and commercial considerations.⁷² So successful was the program of military industrialization that by the 1980s Brazilian weapons were widely known in the international arms trade business.⁷³ In the mid-1980s, the arms industry already occupied a very important place in the Brazilian economy, with more than 350 companies directly or indirectly linked to the military business, employing more than 150,000 workers and technicians.⁷⁴

The arms industry benefited greatly from the export drive in the late 1970s, as Brazil experienced the deterioration of its balance of payment due to the rising cost of oil import. The goal of expanding exports while curbing imports turned indigenous arms production into a critical component of trade policy--expansion not only replaced imports, but also brought in scarce foreign exchange. As Table 4-5 indicates, the arms industry improved its presence in the economy by the early 1980s in relation to both GNP and total exports. The significant factor, however, was the turnaround in the arms exports over arms imports ratio, indicating the successful implementation of import-substitution in armaments.

Because arms sales were not politicized (with the exception of a ban on sales to South Africa and Cuba), local producers had extensive market

TABLE 4-5

Brazil's Arms Transfers, 1975-84
(\$ million, constant 1983 dollars)

<u>Year</u>	<u>(AI)</u> <u>Arms</u> <u>Imports</u>	<u>(AE)</u> <u>Arms</u> <u>Exports</u>	<u>(TI)</u> <u>Total</u> <u>Imports</u>	<u>(TE)</u> <u>Total</u> <u>Exports</u>	<u>AE/AI</u>	<u>AE/TE</u>	<u>AE/GNP</u>
1975	174	104	23,590	15,050	0.59%	0.70%	0.68%
1976	229	114	22,420	16,540	0.49	0.70	0.68
1977	139	123	20,440	18,690	0.88	0.66	0.69
1978	285	143	21,460	18,050	0.50	0.80	0.77
1979	317	145	26,150	20,130	0.45	0.72	0.73
1980	157	169	30,210	24,360	1.07	0.69	0.80
1981	67	190	26,960	26,080	2.83	0.72	0.92
1982	31	335	22,040	21,100	10.80	1.58	1.63
1983	40	130	16,800	21,900	3.25	0.59	0.66
1984	135	483	14,700	26,110	3.57	1.85	2.35

Source: ACDA, World Military Expenditures and Arms Transfers, 1986, 109.

advance so as to assure the buyer that there will not be any change in the policy in the future. It is not surprising that Brazil's main market has become Africa, Latin America and the Middle East. In the case of the latter, Brazil profited from the Iran-Iraq War in the 1980s by at one point selling to both sides. Brazil, in fact, formed a close relationship with Iraq, as the former's main oil supplier.

By the mid-1970s, two private companies had become successfully involved in the military industry, particularly in the export business: Engenheiros Especializados (Engesa) and Avibrás. Both were created in the early 1960s, but for different purposes. Engesa was founded in 1961 to build power trains for vehicles hauling prospecting equipment to remote oil exploration sites for the government petroleum monopoly, Petrobrás. Avibrás, on the other hand, originally produced basic training aircraft. These two companies became heavily involved in the military industry in the 1960s through the licensing of foreign weapons for domestic production. By the mid-1970s, however, their advanced level of technological expertise allowed them to design their own weapons and to build the equipment on their own.

Engesa's designs reflect the increasing internationalization of production. For instance, the leaders in Engesa's export product line are the amphibious armed personnel carrier EE-11 Urutu, the EE-9 Cascavel armored vehicle, and the EE-3 Jararaca light reconnaissance vehicle. All are named after Brazilian snakes. These vehicles employ Brazilian-made Mercedes-Benz engines. The first two models are fitted with a 90-mm cannon formerly

produced in France and now made locally.⁷⁷ Engesa's vehicles were readily welcomed by the Third World. Its Cascavel has been sold to 33 countries, mostly in the Middle East and Africa.⁷⁸ Libya bought 400 Cascavels in 1977, which were later "battle-tested" in its invasion of Chad.⁷⁹

Avibrás has been more interested in aerospace technology, particularly in the production of missiles and rockets. This area received wide help from foreign companies, particularly France and Germany. Rolands and anti-tank Cobra missiles, for example, are assembled in Brazil with a French-German consortium.⁸⁰ Avibrás' Sonda III, used for meteorological studies, has interested Taiwan as a ballistic missile, and the Sonda IV launches communications satellites. Besides its many purposes in the civilian industry, one of Avibrás' main markets has been its Astros series artillery saturation rocket system. Astros II rocket systems were used by Iraq in its war with Iran.⁸¹ Avibrás builds the mobile system in various calibers with different ranges and with single or multiple warheads in the two largest rocket sizes. The SS-30, the smallest of the artillery rockets, has a range of 18.6 miles, while the SS-40's range is 24.8 miles. The largest of the saturation rockets is the SS-60 (37.3-mile range). The rocket system is made of three vehicles: a universal multiple launcher, an ammunition supply vehicle and a fire control unit. An Avibrás subsidiary, Tectran, manufactures the vehicles, and the parent company builds the weapons system and the rockets. Avibrás builds the fire control unit for the SS-30 and SS-40, while Contraves in Switzerland supplies the unit for the SS-60.⁸²

The most successful state-owned company has been the Empresa Brasileira de Aeronáutica (Embraer), created in 1969 to be in charge of aircraft production. The government owns 51 percent of its shares. When Embraer was first created, it was concerned with supplying the military with training aircraft. Since then, it has moved not only to jet fighter planes but also to the civilian market with a rapid expansion of production, as Table 4-6 shows.⁸³ Embraer's first foreign contract came in 1975 with the sale of 5 Bandeirante and 10 Ipanema to Uruguai for \$85 million.

Embraer grew out of CTA's own aeronautical research only to become an independent and successful aircraft manufacturer. Under an ITA research project, Brazil developed a prototype for an aircraft which came to be known as Bandeirantes, the Portuguese name for the pioneers of early Portuguese settlement in the New World. Eventually, Embraer commercialized the airplane in a venture which placed the company in the leading edge of the commuter airline industry. So fast was Embraer's growth that some of the land CTA controlled in São José dos Campos had to be given to Embraer as the company expanded its production facilities. Today, Embraer has its own research facilities, and the CTA plays a small part in its overall marketing strategy.

The Bandeirantes is the most successful result of this combination (military and civilian production). The aircraft production began in 1972 with a firm order of 80 planes from the Brazilian Air Force. Its use in the civilian market was quickly developed with the booming commuter industry

TABLE 4-6

Aircraft Production by Embraer
(Number of Units per Year)

<u>Year</u>	<u>Units</u>
1970	0
1971	5
1972	37
1973	65
1974	105
1975	279
1976	514
1977	556
1978	222
1979	279
1980	418

Source: BANAS no. 1279 (October 1982): 21.

particularly in the United States. It was estimated that by the end of 1981, more Americans than Brazilians were flying in these 18-passenger planes, flown by nearly 70 U.S. feeder airlines.⁸⁴ More recently, Embraer has introduced the Brasília, a 30-seat turboprop, which is proving successful as well.

On the military side, from 1971-1983 Embraer also built, under license from Italy's Aeronautica Macchi, the two-seat Xavante jet for advanced training and ground support. The Xavante was sold to countries such as Paraguay and Togo. Embraer has since discontinued its production to devote more time to the building of the Brasília aircraft (for use as commuter and airlift support) and a more advanced jet fighter. Xingu, a trainer jet, has also become very popular, being supplied even to France.⁸⁵ Another trainer aircraft, Tucano, is designed to simulate a fast jet. The Tucano features a single-lever arrangement that controls both engine and propeller pitch. Four underwing stations can carry up to one ton of assorted armaments for tactical training. The Tucano has sold well in the international market, with the most noted buyer being Britain's Royal Air Force.⁸⁶

The Brazilian aircraft industry is faced with the challenge of maintaining an up-to-date production line in a sector where technology changes at a rapid pace. Because the industry is heavily dependent on the export market, the technological gap between what the international market demands and the local technological stage may be closed through technology imports.⁸⁷ As a semi-public company, Embraer has seen the reduction of

federal help due to the economic crisis. An alternative has been the development of new generation of aircraft through joint ventures (e.g., AMX with Italy, and the CBA-123 with Argentina). The latter aircraft is a good example of Embraer supplying the technology and production facilities, while the Argentine company, FAMA, provides part of the funding. This reduction in funding comes at a time when Embraer is diversifying its production and winning new markets overseas. In 1982, for instance, Fairchild Industries, maker of the commuter-size Metro, requested that the U.S. International Trade Commission verify Embraer's sales of Bandeirantes as hurting unfairly the U.S. company. Among the charges, Fairchild claimed improper governmental subsidies, which lowered the cost of the Brazilian aircraft. After a fierce battle at the ITC, Embraer was cleared without trade retaliation by the U.S. government. Embraer's victory underscored the increasing protectionist environment the Brazilian manufacturer had to face in the U.S. market.

The new-generation, 30-seat, pressurized twin-turboprop airliner, EMB-120 Brasília, has received wide acceptance in the U.S. market because of its high cruise speed and low operating costs. The cockpit, in fact features digital computerized flight control systems and may have a corporate configuration for 18 seats. The high level of technology in the airplane has come at the expense of a high content of foreign parts. Brasília, for instance, has two Pratt & Whitney PW118 turboprops. One estimate puts 70 percent of the aircraft equipment and materials as coming from foreign sources, mostly

American.⁸⁸ Such a high content almost makes Embraer's São José dos Campos plant an "assembly" complex rather than a "manufacturing" one. This dependence from foreign suppliers does not worry company officials because the interdependence of the arms market affects all producers, regardless of developmental stage.⁸⁹

The Brazilian government not only has encouraged national companies in the arms industry (through a package of tax exemptions, subsidized credit, or even cash grants), but it also has allowed the indirect participation of multinational corporations so as to tap their advanced technology. For example, in the late 1970s, the Brazilian Industrial Development Council authorized the Aerospatiale corporation of France to manufacture helicopters in Brazil. This was done through the creation of the Brazilian Helicopter Company (HELIBRAS), of whose shares the French company was allowed to own 45 percent. The other shares were owned by the State of Minas Gerais and national private companies.⁹⁰ Volkswagen do Brasil is Embraer's second largest shareholder, while Mercedes Benz do Brasil produces most of the engines used by Engesa's vehicles.⁹¹ The importance of foreign capital in the arms industry leads Clóvis Brigagão to point out that while the design has become indigenous, many of the high-technology components are either produced under licence, imported or co-produced in the form of joint ventures.⁹²

As the level of technological sophistication increased in the arms industry, Brazilian companies sought joint ventures as a critical strategy

against prohibitive R&D costs, which the state could not supply. Embraer's recent venture for the AMX subsonic jet fighter is one example.⁹³ The strike fighter was built in partnership with Italy's Aeritalia and Aeronautica Macchi. They also hoped to help meet the demand of the North Atlantic Treaty Organization (NATO), which they estimate will need 1,000 planes of this type for the 1990s.⁹⁴ Brazil also expected the jet's low price tag of about \$10 million to appeal to many Third-World countries.⁹⁵ Whether such a demand will develop remains to be seen.

While the next chapter will discuss in more detail the impact of foreign technology on the Brazilian arms industry, the political importance of the indigenous production of armaments within the context of U.S.-Brazilian military relations should be stressed here. After all, the growing importance of the European market in supplying Brazilian companies with technology lessened their dependence on U.S. arms suppliers. The immediate impact of indigenous production was on the military's ability to locally procure more advanced weapons in its effort to modernize its aging inventory. As Table 4-7 indicates, Brazil in 1970 still counted on World War II vintage weapons for its defense, mostly supplied by the United States through the 1952 military assistance agreement. However, Brazil was beginning to tap more sophisticated armaments, some of which were locally produced, such as the Xavante. By 1980, as Table 4-8 indicates, Brazil had clearly modernized its Armed Forces. But what is striking about the changes is the dramatic increase in locally produced weapons.

TABLE 4-7

Brazil's Armament Inventory, 1970-1971
(Major Weapons Systems)

	<u>SUPPLIER</u>	<u>COMMENTS</u>
<u>Army:</u>		
M-41 Walker Bulldog tanks	U.S.A.	Korean vintage
7 Bell 206A Jet Ranger	U.S.A.	helicopter COIN squadron
8 Bell UH-1D Iroquois	U.S.A.	helicopter COIN squadron
<u>Air Force:</u>		
B-25 Mitchells	U.S.A.	World War II vintage
B-26K light bombers	U.S.A.	World War II vintage
C-45	U.S.A.	transport
C-47	U.S.A.	military transport version of the old 1935 DC-3
DC-6B	U.S.A.	passenger transport
DHC-5 Buffalo	Canada	transport with rear loading ramp for vehicles
HS-125	UK	Hawker Siddeley transport equipped for airways inspection
C-130 Hercules	U.S.A.	Lockheed transport
C-119G Packet	U.S.A.	Fairchild transport
Pilatus Porters	Switzerland	transport
CM170 Super Magister	France	Aérospatiale light two-seat twin-jet trainer
Uirapuru	Brazil	trainer aircraft
T-37C	U.S.A.	trainer aircraft
Fokker S-11/12	The Netherlands	trainer aircraft
T-6G Texan	U.S.A.	trainer aircraft
O-1 Big Bird	U.S.A.	Cessna
L-6 Paulistinha	Brazil	Neiva aircraft
L-42 Regente	Brazil	Neiva; replacing old L-16 and O-1A; for light liaison and observation duties
LOH-6A	U.S.A.	helicopter
Alouette II	France	helicopter
FH-1100 LOH	U.S.A.	helicopter
<u>On Order:</u>		
Mirage IIIE/Mirage IIIB	France	fighter/ground attack
A-4F Skyhawk	U.S.A.	fighter-bombers
MB-326	Italy/Brazil	Aermacchi built in Brazil by Embraer as the Xavante T-25
Universal	Brazil	Neiva trainer

Source: Expanded by the author from basic inventory list on International Institute of Strategic Studies, The Military Balance, 1970-1971 (London: IISS, 1970), 74.

TABLE 4-8

Brazil's Armaments Inventory, 1980-1981
(Major Weapons Systems)

	<u>SUPPLIER</u>	<u>COMMENTS</u>
<u>Army:</u>		
M-4	U.S.A.	tank
M-3A1	U.S.A.	light tank
M-41	U.S.A.	light tank
EE-9 Cascavel	Brazil	Engesa
M-7/8	U.S.A.	armored cars
EE-11 Urutu	Brazil	Engesa
M-113/114/116	U.S.A.	armored personnel carrier
Cobra	Brazil	anti-tank guided rocket; German license
Roland	Brazil	surface-to-air missile; French-German license
<u>Air Force:</u>		
Mirage IIIEBR	France	fighter/ground attack
F-5E/F-5B	U.S.A.	Northrop fighter
AT-26 Xavante	Brazil	Embraer
T-25 Universal	Brazil	Neiva trainer
Bell UH-1D Iroquois	U.S.A.	helicopter COIN squadron
Bell 206A Jet Ranger	U.S.A.	helicopter COIN squadron
LOH-6A	U.S.A.	helicopter
S-2A/S-2E	U.S.A.	airplanes
EMB-111M	Brazil	Embraer
HU-16B Albatross	U.S.A.	Grumman fighter
PBY-5A	France	naval bomber
SH-1D	Italy	helicopter
Bell 47G	U.S.A.	helicopter
Boeing 737	U.S.A.	transport
C-130E/H	U.S.A.	Lockheed transport
KC-130H	U.S.A.	Lockheed tanker/transport
HS-748	UK	twin-engine transport
DHC-5 Buffalo	Canada	transport
HS-125	UK	Hawker Siddeley transport
EMB-110 Bandeirante	Brazil	Embraer; transport
EMB-121 Xingu	Brazil	Embraer; transport
C-47	U.S.A.	military transport
AB-206	Italy	Augusta helicopter
SA-330 Puma	France	helicopter
L-42 Regente	Brazil	Neiva
O-1E	U.S.A.	Cessna
EMB-810C	Brazil	Embraer; U.S. production license

Source: Expanded by the author from basic inventory list on International Institute of Strategic Studies, The Military Balance, 1980-1981 (London: IISS, 1980), 79-80.

The successful development of an indigenous arms industry not only produced changes in Brazil's inventory but also in U.S.-Brazilian military relations. By increasing the number of weapons systems produced locally, Brazil was able to gain some control over military policy, which it had lost in the early days of the Cold War (see Chapter 3). It is to this political context of indigenous arms production that we now turn.

An Assertive Middle Power

Brazil's economic boom in the late 1960s, coupled with the successful development of an arms industry, sowed the seeds of discord between the two nations that would bear bitter fruit in the 1970s--the collapse of military cooperation. Brazil, as an emerging economic power, found its foreign-policy goals increasingly at odds with those of the United States as it attempted to strike a balance between its First-World aspirations and its Third-World economic position. Kramer suggests that at that point a new national security perspective was emerging in Brazil, with a shift from unconditional alliance with the West to closer attention to issues related to autonomy and the ESG's "Permanent National Objectives" (Objetivos Nacionais Permanentes).⁹⁶

In the early days of the Geisel administration, U.S. Secretary of State Henry Kissinger had managed to allow the expansion of Brazilian international aspirations with the signing of a memorandum on February 21, 1976, which created a mechanism for bilateral consultations on a wide range of levels. As Skidmore points out, "By signing this memorandum, the U.S.

was acknowledging Brazil's emergence in Latin America as the preeminent economic power."⁹⁷

The strength of bilateral relations was put to the test in the second half of the decade, as two issues dominated the foreign-policy agenda of the two countries: nuclear proliferation and human rights. On the U.S. side, the incoming Carter administration placed the issues on a global scale not targeted at any specific country,⁹⁸ while Brazil accused Washington of being a "moral imperialist,"⁹⁹ or suffering from "unacceptable naïveté," in the words of a Brazilian congressman, Herbert Levy.¹⁰⁰ As a senior member of the National Security Council who specialized in Latin American affairs, Robert Pastor wrote in a memo during that period: "Our relations with Brazil are extremely tense. The Brazilian leadership views our human rights and non-proliferation policies as designed specifically to keep Brazil contained and a third-rate power."¹⁰¹

As mentioned earlier in this chapter, Brazil had signed a nuclear agreement with West Germany in 1975, which included the transfer of sophisticated technology. U.S. officials expressed strong reservations to the nuclear pact and attempted unsuccessfully to persuade both sides to abandon the proliferation of nuclear technology. Vice President Walter Mondale, in a visit to Western Europe in 1977, openly criticized the 1975 Brazilian-German agreement, thus drawing strong protest from Brasília. Riordan Roett, director of the Latin American Studies Program at Johns Hopkins University SAIS, subsequently wrote a letter to the Vice President in which he argued that,¹⁰²

The agreement represented an important step forward in Brazil's desire to be treated with greater equality by the industrialized nations. . . . The changing nature of international politics has provided heretofore impossible opportunities for countries such as Brazil to move rapidly in international prestige and influence.

Roett further cautioned that "there is an important question of style and method involved in dealing with Brazil. Your remarks probably exacerbated an already delicate situation between the two countries, unfortunately."

The second issue that proved controversial in the two countries' relations was Brazil's human rights record and its linkage to U.S. arms transfers. In 1976, still under President Ford's direction, the U.S. Congress passed the International Security Assistance and Arms Export Control Act, which prohibited arms transfers to any country that engaged in what could be considered a continuing pattern of human rights violations. The State Department was instructed to issue reports to Congress on the human rights status of U.S. aid recipients whenever military assistance requests were submitted.

In March 1977, as the Carter administration prepared to make the formal aid requests to Congress, the State Department prepared its report, containing 82 countries, including Brazil. The United States was to offer a \$50 million credit line for Brazil to buy U.S. weapons through the 1952 military assistance agreement. Although President Carter had not recommended the denial of military aid to Brazil, the report made reference to some human abuses by the military regime. At the same time, the report acknowledged

that the country was undergoing a process of "abertura" (opening) under President Geisel's administration.

The simple linkage between Brazil's human-rights record and U.S. military assistance set off a nationalist reaction from Brasília which led to a direct questioning of Brazil's military cooperation with the United States.¹⁰³ During the same week that the State Department was to give the report to the U.S. Congress, the Carter administration was pressuring Brasília to cancel its nuclear agreement with West Germany. Although the report did not contain any inflammatory statements about Brazil's human rights record, the very treatment of the subject enraged the military regime for what it characterized as a gross intrusion into Brazil's domestic affairs.

The Carter administration seemed to sense such a possibility and tried to find ways to minimize the impact of the report. The U.S. president was to submit the report along with the aid request to Congress on Monday morning, March 7, 1977. At 5 p.m. on Friday (March 4), when Brazil's Foreign Ministry (Itamaraty) was about to close for the weekend, the political adviser of the U.S. embassy submitted a memorandum to Itamaraty with the Department of State report. Whether intentional or not, the memorandum would only reach the foreign minister's hands by Monday morning when the U.S. Congress was already considering the aid request. By that time, it would be too late for Brasília to preempt the Congressional deliberation, and the discussion about Brazil's human rights record would be openly debated on the Congressional floor. Officers in the Itamaraty, sensing the importance

of the U.S. memorandum, immediately dispatched it to the foreign minister. Upon reading it, Silveira called President Geisel, and within a few hours the president with his closest advisers were evaluating the human rights report on Friday night. During that same day, Bonn had announced that it was delaying the implementation of its nuclear agreement with Brazil because Washington wanted additional time to try to convince German authorities against the 1975 nuclear deal.¹⁰⁴

So outraged was the Brazilian president with the human rights report that on Saturday morning (March 5), U.S. Ambassador John Crimmins was called to Itamaraty and the memorandum was actually given back to him as unacceptable. In the afternoon, the Brazilian foreign minister publicly denounced U.S. "interference" in Brazil's domestic affairs, and the foreign aid package was officially rejected. On Sunday, the Brazilian newspapers announced the shocking news of Brazil's refusal.¹⁰⁵

The dispute did not end at this point. President Geisel met during that weekend at his retreat, Granja do Riacho Fundo, with his closest advisers: foreign minister Silveira, chief of military staff General Hugo de Abreu, chief of civilian staff Golbery do Couto e Silva, and President of the Senate Petrônio Portella. During the week, other meetings were called to consider the legal implications of cancelling the 1952 military assistance agreement. President Geisel had lengthy conversations with General Moacir Barcelos Potyguara, chairman of the Joint Chiefs of Staff, and with the three ministers of the Armed Forces (Air Force, Navy and Army).¹⁰⁶ By Thursday night,

President Geisel made up his mind and signed the presidential act rescinding the agreement.

On Friday morning, almost a week after Brazil had refused military aid from the United States, U.S. Ambassador Crimmins was called again to Itamaraty and talked for only 15 minutes to the secretary general of the foreign ministry, Ramiro Saraiva Guerreiro, during which Crimmins was given the official note from the Brazilian government announcing its intention to cancel the agreement.¹⁰⁷ Crimmins left Itamaraty with a somber face. The news of President Geisel's decision was announced to the nation in the afternoon.¹⁰⁸ As the official reason for the decision, Itamaraty announced the changes in U.S. aid policy under the 1976 Act. These changes, according to the official note communicating the cancellation, were unacceptable to Brazil.¹⁰⁹

By a newspaper account, President Geisel was "personally" irritated by President Carter's pressure against the nuclear agreement with West Germany and the human rights issue.¹¹⁰ Even the minister of planning, Reis Velloso, did not know about the cancellation until it was announced to the press.¹¹¹ Even members of the Joint U.S.-Brazilian Military Commission were caught by surprise, considering that the cancellation would mean the end of the commission. Ironically, Admiral Arnaldo Jannuzzi, chief of the Brazilian delegation in the commission, met on that same Friday for lunch at the Naval Club in Rio de Janeiro with William Callaghan, Jr., his U.S.

counterpart. The two talked for more than 45 minutes without knowing that the agreement had been cancelled.¹¹²

Coronel Toledo de Camargo, the Brazilian president's spokesman, argued to the press that the decision to cancel the 1952 agreement had been the logical outcome ("desdobramento lógico") of the previous decision to refuse the military credit the week before. Because President Geisel wanted to examine first the legal implications of cancelling the agreement, Brasília had to wait a few days before making a decision. The two (refusing aid and cancelling the agreement) could very well have been announced at the same time. But the urgency of refusing the military credit before the U.S. Congressional debate led to the gap between the two bombshells in bilateral relations.¹¹³

The Brazilian Congress showed strong support for President Geisel's decisions. Even members of the opposition party, Movimento Democrático Brasileiro (MDB), rejoiced at the cancellation of the agreement. On Friday (March 11), when the announcement was made, Senator Benjamin Farah of MDB met with Foreign Minister Silveira on unrelated matters, but during the meeting the senator joked with the diplomat that President Carter had managed what nobody in Brazil had previously been able to do: he had united the opposition and ruling parties behind the same cause.¹¹⁴ Senator Roberto Saturnino, vice leader of MDB, suggested,¹¹⁵

Sovereignty is a condition that must be above all circumstances. We hope that this political confrontation between Brazil and the United States will not deepen, and

we do not [in the opposition] want to contribute to this deepening. However, on this matter, we shall always be behind the Brazilian government. Nobody should doubt: before and above all, we are Brazilians.

Unsurprisingly, the ruling party, Aliança Renovadora Nacional (Arena), showed wide support for the president. The chairman of the Foreign Relations Committee in the Brazilian House of Deputies, Joaquim Coutinho, said, "The Brazilian government is doing what I have dreamt for a long time, establishing for the first time, and I believe for good, its sovereignty."¹¹⁶ The president of the House of Deputies, Marco Maciel, had similar remarks:¹¹⁷

The relationship between sovereign and friendly nations should not impose conditionalities that interfere in our problems. Brazil, thanks to the efforts of its people and to the determination of its government, is building its project and its destiny of greatness [grandeza]. We will not accept any intrusion that may turn it away from these objectives.

European countries expressed surprise at President Geisel's decision to cancel the agreement.¹¹⁸ The general impression was that Brazil had "overreacted" by going beyond the refusal of military aid. After all, President Carter was obligated to prepare the human rights report under the 1976 Act. Even Great Britain was mentioned for human rights violations, given its military policy in Northern Ireland at the time. Other countries mentioned besides Brazil were Iran, the Philippines, Zaire, Ethiopia, Argentina, Nicaragua, and South Korea. Of all those, the White House had decided to reduce military aid to only three: Argentina, Uruguay, and Ethiopia. On December 31, 1976, the U.S. House of Representatives had released a much

harsher report on human-rights violations in Argentina, prompting President Carter's decision to reduce aid to that nation. During the March 1977 request, military aid to the others mentioned for some human-rights violations continued because of U.S. national-security considerations. From this standpoint, Brazil had clearly been differentiated over Argentina, a long-time goal of Brazilian hemispheric policy.

Analysts puzzled over the decision to cancel the agreement, but three possible reasons were offered.¹¹⁹ First, some argued that President Geisel was attempting to appease the conservative forces within the military, given the abertura in the domestic political process. Second, some argued that Geisel wanted to capitalize on the nationalism that the cancellation produced so as to strengthen Brazil's resolve to continue its nuclear policy under stiff U.S. objection. Third, Geisel was seeking internal support for his government, given the deteriorating state of the domestic economy following the 1973 oil shock.

Underlying these reasons was the growing gap between Brazil's military policy in the 1950s when the agreement had been negotiated and signed, and the new realities of the 1970s following the "economic miracle" years. Military officers had privately already conceded before the March incident that the 1952 agreement was increasingly obsolete given Brazil's strides in developing an indigenous arms industry.

In fact, after the military came to power in 1964, the agreement was little used. The military regime had not even used a \$50 million military

assistance grant from the United States for fiscal year 1977.¹²⁰ The Brazilian Air Force's last purchase of U.S. equipment through the 1952 agreement was in 1973 when the U.S. Navy sold 16 S2E planes for operations in the Minas Gerais aircraft carrier.¹²¹ In the 1950s, when Brazil acquired most of its U.S. weapons through the 1952 agreement, some of the equipment received came through the lend-and-lease program used to recycle weapons from the Korean War. The last exchange under the agreement occurred on March 3, 1977 when Brazil paid \$350,000 for the purchase of equipment that had been borrowed from the United States in the last three decades. The weapons included light combat vehicles and cannons, most of them acquired right after the Korean War and by the 1970s considered already obsolete and turned into scrap metal.¹²²

The military worried about dependence on a single military supplier, given the supplier's ability to determine the terms of the exchange.¹²³ The changes in U.S. foreign policy after President Carter came to the White House confirmed the Brazilian military's fears. In December 1976, after being appointed commander of the First Army, General José Pinto de Araújo Rabello defended the Brazilian national security doctrine of no links with any specific country.¹²⁴ Two months later, rumors within the Armed Forces indicated that officers (placed at the highest level) favored the cancellation of the 1952 agreement.¹²⁵ On Monday (March 7, 1977) as President Geisel considered the decision to cancel the agreement, the commander of ESG, General Ayrton Tourinho, in commenting about Brazil's decision to refuse

the U.S. credit line, argued that Brazil was already well under way to self-sufficiency in armaments, citing IMBEL as the main example of the country's capability.¹²⁶

The main direct casualty of the agreement cancellation was the exchange program that allowed Brazilian officers to study in the United States. Of the 16 Army generals on active duty—including the four that were serving in the Military Supreme Court—at the time the agreement was cancelled, 8 had technical training in the United States.¹²⁷ The reduction of the number of officers trained in the United States would certainly have an impact on the U.S. ability to shape Brazilian strategic thought.¹²⁸

Paulo Kramer argues that the real reason for the cancellation of the military agreement dates back to the 1960s, when the military government invested heavily in the modernization of its armaments so as to reduce dependency on American supplies.¹²⁹ Because the agreement was viewed as an attempt to subordinate Brazil into a supporting role in the Western alliance while denying the country U.S. arms technology, the cancellation of the agreement officially acknowledged the independence of Brazil to pursue its own military policy. The \$50 million credit in 1977 represented only 2.5 percent of Brazil's defense budget.¹³⁰ In fact, after Brazil rejected the credit line, the Treasury Minister Mário Henrique Simonsen told reporters that the U.S. military help was "peanuts,"¹³¹ certainly a clever response to President Carter—an experienced peanut grower in Georgia.

The U.S. administration downplayed the importance of the cancellation by saying little in public. Immediately after the cancellation was announced, the U.S. embassy declined to comment; Washington's response was equally subdued, acknowledging only that Brazil's decision was perfectly legal within the terms of the agreement. A Department of State spokesman confirmed the cancellation of the assistance agreement and said he would have no further comment.¹³² In the U.S. media, the cancellation was placed within the context of nuclear energy policy and human rights. The Washington Post, in an editorial about Brazil's nuclear program, placed the refusal of the U.S. military credit into perspective: "Brazil is not South Korea, a small dependency which, under American pressure, abandoned similar plans. Brazil is a large independent nation. It cannot be pressured; we hope President Carter accepts that now."¹³³ Sen. Hubert H. Humphrey (D-Minn.), chairman of the foreign assistance subcommittee, which made the human rights report public, called the Brazilian cancellation of the 1952 agreement "unfortunate."¹³⁴

There was interest on both sides in keeping the incident from escalating into a major confrontation. On March 14--nine days after the issue had exploded with Brazil's decline of military credit--the Brazilian president's spokesman told journalists that "everything about this subject has already been discussed."¹³⁵ When the Department of State human-rights report was finally released days later, the Brazilian government deliberately reacted with "calculated indifference."¹³⁶

Despite the effort to control the disintegration in bilateral relations, Brazil continued to revise its military alliance. In September of the same year, without much publicity or confrontation, Brazil cancelled four additional military agreements, in what Ambassador Crimmins characterized as the end of "all formal structure of military cooperation between the two countries."¹³⁷ The agreements concerned a U.S.-Brazilian military commission, a naval commission established in 1942 to coordinate Brazilian participation in World War II, a 1967 agreement governing the use of imported U.S. arms, and a 1952 pact for U.S. participation in the aerial mapping of Brazil.

The United States, for its part, hastily worked on a presidential South American tour, which would include a stop in Brasília. The date was tentatively scheduled for November, but because of a "lukewarm" response from Brasília, the trip was rescheduled for late March of 1978.¹³⁸ The planned visit set the stage for a lively debate within the Carter administration. The Defense Department and the Joint Chiefs of Staff argued that during his visit in Brazil the President should initiate the discussion by saying that the United States was interested in exploring new military agreements with Brazil. The Department of State, on the other hand, favored letting Brazil initiate discussions of the subject.¹³⁹ While the latter view prevailed, Brazil did not show any interest in a new military agreement until the Reagan administration showed a willingness to supply Latin American countries with sophisticated weapons (see Chapter 5).

In preparation for President Carter's visit to Brazil, National Security Adviser Zbigniew Brzezinski passed on to Robert Pastor a memorandum, titled "Encouragement of Brazil to Become a Responsible Western Power," in which the unidentified author suggested the use of the president's visit "to recognize that Brazil has arrived as an international power."¹⁴⁰ The memorandum went so far as to suggest that the United States should invite Brazil to join NATO. Given President Carter's human rights policy, Pastor pointed out in his response to Brzezinski that Brazil's record would place Carter in a difficult political position: "If Carter were to propose a military alliance with Brazil, he would be setting himself up for being criticized by his own words."¹⁴¹

Although Pastor himself doubted the Brazilian officials would like the idea of joining NATO or even a South Atlantic Treaty Organization, the debate within the administration demonstrated the increasing importance U.S. officials gave to the emerging status of Brazil in world affairs. If Brazil were to accept full membership in the club of great powers, it would stand to lose much of the preferential treatment developing nations received in trade and direct assistance. Given the country's economic crisis, U.S. officials doubted Brasília would embrace the NATO invitation.

In 1978, when President Carter visited Brazil, he received a cool reception from the military regime, but President Geisel, in his welcome speech, expressed his hope that the visit would lead to a constructive dialogue between the two countries.¹⁴² In President Carter's response,

Brazilians were encouraged to hear him say the country possessed "the vision, energy and creativity of a truly great power."¹⁴³ In the Brazilian National Congress, deputies welcomed President Carter's efforts to improve human rights in the world, but reminded the U.S. president of Brazil's developmental aspirations. In a speech welcoming President Carter to the Brazilian Congress, Deputy Erasmo Martins Pedro pointed out,¹⁴⁴

All of us in Brazil are deeply committed to national development. We want to perfect our democratic system just as we want to reform socioeconomic structures that no longer correspond to our needs. We are determined to free our country from its continued economic and technological dependence. . . . In this we count on the understanding and support of all governments, and particularly the government of your [Carter's] country, to which we have, in difficult times, given unmistakable proof of our solidarity.

The senate reception speech, delivered by Senator Eurico Rezende, also expressed similar concerns with the nature of bilateral relations.¹⁴⁵

Brazil, while maintaining full solidarity with the West, has responded to the signs of the times and has exercised its autonomy. . . . We believe, without wanting to propose a return to past and unsuccessful aid programs, that with greater understanding it would be possible to seek a more rewarding cooperation, especially in the fields of commerce, finance, and free scientific and technological development.

The visit was considered a victory for President Geisel because the nuclear proliferation and human rights issues were only discussed in general terms. In fact, during the meetings, there was an underlying assumption that the United States had finally come to accept Brazil's nuclear program as "fato consumado."¹⁴⁶ After the visit, President Carter sent a letter to President

Geisel expressing his belief that the meetings helped improve bilateral relations: "I feel that as a result of our meetings, we understand each other better and will be able to discuss our disagreements without calling our basic friendship into question. . . . These talks have helped us put a difficult time behind us and made us ready to build on the many areas of agreement between us."¹⁴⁷

Richard Johnson, chargé d'affaires in the U.S. embassy in Brasília, sent a copy of the April 5 issue of Veja (the Brazilian equivalent of Time magazine) to Brzezinski, with the following comments: "Enclosed as you requested is the latest Veja, hot off the newsstand, with the story on the visit. The cover 'teaser' says: 'Carter is going, the problems remain.' This is typical of some reaction, although the average is more positive."¹⁴⁸ What Johnson does not mention in his letter is that in the same issue an article written by Luiz Weis commented on the fact that Brazilian diplomats were relieved to see that President Carter had not gone to Brazil to fight, as had been expected. In fact, the first sentence of Weis' article reads in Portuguese: "Jimmy Carter does not bite."¹⁴⁹ In its political insecurity, Wise adds, Itamaraty had planned a strategy of preemptive counter-attack, in case President Carter had in mind confronting Brasília in its own territory: "Let's have Carter for lunch before he has us for dinner."¹⁵⁰ Such a strategy was not needed, given the cordial relations that were established during the visit.

The general impression that arose from the presidential meetings was that Brazil sought and received greater recognition as to its status in world

politics. By the end of the decade, U.S. officials were becoming increasingly cognizant of the changing patterns of relations between the two countries. Although Brazilian economic crisis had lowered the expectation of its graduation to great-power status in the near future, U.S. officials were careful in recognizing Brazil's growing importance in the world.

On Dec. 18, 1980, for instance, when U.S. Vice President Walter Mondale met in Washington with the Brazilian majority leader of the Brazilian Senate, Jarbas Passarinho, the U.S. Department of State issued a briefing paper to the Vice President, summarizing the importance of U.S.-Brazilian relations.¹⁵¹

Brazil is nibbling at world power status but still looks to the U.S. to provide the leadership to protect the interests of the West, with which it identifies. It is, however, sensitive about past dependence on the U.S., still somewhat bruised by our earliest assertive stands with regard to it on human rights and nuclear energy. . . . As Brazil achieves world power status, their confidence in our leadership and cooperation with us on global issues become more important.

The general remarks in the briefing paper told of the changing nature of the two countries' relations. "Nibbling" might be interpreted as more than wishful thinking on the part of Brazilian officials, while at the same time, U.S. policy-makers continued to count on Brazil's allegiance with the West in the Cold-War scenario.

Concluding Remarks: Power and Discord

The central theme of this chapter has been the impact of economic growth during the 1968-1972 period on Brazil's national security policy-making. The "Great-Power" project that guided the military regime's economic policy spilled over into the realm of national security under the influence of ESG's Doctrine of National Security, as discussed in Chapter III. What is strikingly different in this period compared to the 1950s when Brazil signed a military assistance agreement with the United States, is that an economic boom expanded the horizons of an emerging power. From that standpoint, this analysis comes very close to the agent-centered argument as articulated by Organski in his "power transition" conception.¹⁵² Pierre offers a similar argument when reviewing U.S.-Brazilian relations during the 1970s: "greater Brazilian capabilities impel the national leadership to aspire toward a more significant and independent international security role."¹⁵³

However, as this chapter shows, we also need to consider a systemic dimension that works as an "enabling environment" for this transition process. As discussed above, several factors contributed to Brazil's process of liberation. First, the tight bipolar order loosened with the European recovery and increasing Third-World questioning of the existing international economic order. Second, this systemic change allowed Brazil to seek closer military alliances with European armament suppliers, while opening markets in the Third World for Brazilian weapons exports. Third, foreign investment in Brazil increasingly funneled resources and technology (e.g.,

automobile industry) to the arms industry, which expanded the latter's productive capability.

The development of a competitive arms industry--drawing on European technology--had as its central goal to break away from the U.S. supply monopoly. From this standpoint, the cancellation of the 1952 agreement did not come as a major surprise. Alexandre de Barros, for instance, argues that the unilateral cancellation of the military agreement meant little objectively for Brazil because it had already diversified its list of suppliers and was not located in an area of grave international tension. However, he adds, the cancellation had a much more important effect in that it legitimized, not only before the military but also before society, the idea of a national arms industry.¹⁵⁴

The success of arms exports during the late 1970s increased this legitimacy by adding prestige and much needed foreign exchange during a period of rising imported oil prices. The integration of the industry into the international arms trade system adds a technological dimension that cannot be considered solely from a "power transition" standpoint. Maria Helena Moreira Alves' application of "dependent development" to the study of Brazil's national security doctrine provides an interesting alternative to considering the context of the growing penetration of international capital in the country's local economy. Drawing on the "economic tripod" concept (see Chapter 1 of this study), Alves analyzes Brazil's national security perspective based on "the particular role that the Brazilian economy has played in a

world economic system."¹⁵⁵ She provides an excellent treatment of the doctrine's origins, particularly stressing its basic concepts (internal security and the opposition) as derived from the Manual Básico da Escola Superior de Guerra.¹⁵⁶ What is useful in her analysis is the context of national-security policymaking. While the desire to liberate may be indigenous--although Alves herself might dispute this--the tools of liberation come from a complex of exchange at the global level.

It is at this macro-level (the international arms trade system) that we find the seeds of the paradox of national insecurity. This chapter outlined Brazil's experience in the context of a booming economy and the development of indigenous arms production. The U.S.-Brazilian conflicts in the 1970s were closely related to the outcome of these two processes. Once "liberation" was achieved, a new process was set in motion: survival. Chapter 5 addresses the ability of Brazil to pursue an "autonomy" policy in the production of armaments, while at the same time competing in the international market. The insecurity of depending on a single supplier changes to that of rapid technological change in weapons development programs. Alliance with foreign technology suppliers is critical in the highly competitive market, but it underscores the continuing dependence on foreign suppliers. As Brazil climbs in the level of sophistication, so does the resistance by the United States to technology transfers to the Third World. The next chapter explores the new context of U.S.-Brazilian relations during the early 1980s: the politics of technology transfers.

Notes

1. Odylio Denys, Ciclo Revolucionário Brasileiro, Memórias (Rio de Janeiro: Editora Nova Fronteira, 1980), 58.

2. Ibid., 78; translation from the original Portuguese.

3. Ibid., 141; translation from the original Portuguese.

4. For a complete text, see Denys, Ciclo Revolucionário, 88-90.

5. There is a rich literature in both Portuguese and English that recounts the events during that period in Brazilian history. See, for instance, Wilfred A. Bacchus, Mission in Mufti: Brazil's Military Regimes, 1964-1985 (Westport: Greenwood Press, 1990); Wanderley Guilherme dos Santos, Sessenta e Quatro: Anatomia da Crise (São Paulo: Vertice, 1986); Maria Helena Moreira Alves, State and Opposition in Military Brazil (Austin: University of Texas Press, 1985); Hélio Jaguaribe, Sociedade e política: um estudo sobre a atualidade brasileira (Rio de Janeiro: Jorge Zahar Editor, 1985); Evaldo Amaro Vieira, A República Brasileira, 1964-1984 (São Paulo: Editora Moderna, 1985); and Alfred Stepan, ed., Authoritarian Brazil: Origins, Policies, and Future (New Haven: Yale University Press, 1973). Therefore, there is no need to explore in detail the factors that led to the military takeover and the subsequent two decades of military rule. This chapter will not try to recount the evolution of the military regime during its two decades in power, either. Two recent works have already become standard references on the subject: Alfred Stepan, Rethinking Military Politics: Brazil and the Southern Cone (Princeton, NJ: Princeton University Press, 1988), and Thomas E. Skidmore, The Politics of Military Rule in Brazil, 1964-85 (New York: Oxford University Press, 1988). We should, however, place the period within the context of U.S.-Brazilian military relations. Brazil's aspiration for an "independent" foreign policy was part of a continuing process dating back from the Vargas administration in the 1930s.

6. Jordan M. Young, Brazil: Emerging World Power (Malabar: Robert E. Krieger Publishing Company, 1982), 76.

7. Jânio Quadros, "Brazil's New Foreign Policy," in Carlos Alberto Astiz, ed., Latin American Politics (Notre Dame: University of Notre Dame Press, 1969), 255.

8. Dwight D. Eisenhower, Waging Peace, 1956-1961 (Garden City, NY: Doubleday & Company, Inc., 1965), 527; underline indicates italics in original.

9. Herbert Goldhamer, The Foreign Powers in Latin America (Princeton: Princeton University Press, 1972), 27.

10. David Ronfeldt and Caesar Sereseres, "U.S. Arms Transfers, Diplomacy, and Security in Latin America and Beyond," The Rand Paper Series (Santa Monica, Calif.: The Rand Corporation, Oct. 1977), 6.

11. Shiguenoli Miyamoto, "Escola Superior de Guerra: Mito e Realidade," Política e Estratégia 5 (Jan.-March 1987): 86.

12. Norma Breda dos Santos, "Geopolítica e Segurança Nacional," Política e Estratégia 5 (Oct.-Dec. 1987): 569.

13. Ronfeldt and Sereseres, "U.S. Arms Transfers," 8.

14. Ibid., 7.

15. Ibid., 8.

16. Gerson Moura and Paulo Kramer, "Brasil-EUA: as razões das diferenças," in Ciências sociais hoje, 1987, comp. Associação Nacional de Pós-graduação e Pesquisa em Ciências Sociais (São Paulo: Vértice, Editora Revista dos Tribunais, 1987), 99.

17. For a good review of Brazil's "responsible pragmatism," see Daniel J. Balz, Richard Corrigan and Robert J. Samuelson, "Muffling the Arms Explosion," National Journal, 2 April 1977, 496-513.

18. As quoted in Albert Fishlow, "The United States and Brazil: The Case of the Missing Relationship," Foreign Affairs 60 (Spring 1982): 908.

19. Santos, "Geopolítica e Segurança Nacional," 552.

20. Fishlow, "The United States and Brazil," 908.

21. Stanley E. Hilton, "The United States, Brazil, and the Cold War, 1945-60: End of the Special Relationship," The Journal of American History 68 (Dec. 1981): 599-624.

22. See, for instance, Young, Brazil: Emerging; Wayne A. Selcher, Brazil in the International System: The Rise of a Middle Power (Boulder: Westview Press, 1981); Wayne A. Selcher, Brazil in the Global Power Systems, Occasional Papers Series no. 11 (Washington, D.C.: Center for Brazilian Studies, The John Hopkins University, 1979); William Perry, Contemporary Foreign Policy: The International Strategy of an Emerging Power (Beverly

Hills: SAGE Publications, 1976); Ronald M. Schneider, Brazil: Foreign Policy of a Future World Power (Boulder: Westview Press, 1976); Norman A. Bailey and Ronald M. Schneider, "Brazil's Foreign Policy: A Case Study in Upward Mobility," Inter-American Economic Affairs 27 (Spring 1974): 3-25; and Philip Raine, Brazil: Awakening Giant (Washington, D.C.: Public Affairs Press, 1974).

23. M. Poppe de Figueiredo, Brasil, um gigante que despertou (Rio de Janeiro: Símbolo Agência de Comunicação, 1973), 353.

24. Antônio de Souza Júnior, O Brasil e a Terceira Guerra Mundial (Rio de Janeiro: Biblioteca do Exército Editôra, 1959).

25. Roger W. Fontaine, Brazil and the United States: Toward a Maturing Relationship (Washington, D.C., and Stanford, Calif.: AEI-Hoover Policy Studies, 1974), 4.

26. Perry, Contemporary Foreign Policy, 25.

27. Ibid.

28. Selcher, Brazil in the International System.

29. A.F.K. Organski, World Politics, 2nd ed. (New York: Alfred A. Knopf, 1968), 109.

30. United Nations, General Assembly, 23rd Session, Official Records of 1677th Plenary Meeting, 2 Oct. 1968, p. 1.

31. United Nations, General Assembly, 25th Session, Official Records of 1841th Plenary Meeting, 17 Sept. 1970, p. 4; underline in original.

32. United Nations, General Assembly, 26th Session, Official Records of 1940th Plenary Meeting, 27 Sept. 1971, p. 2.

33. Ibid., 4; underline in original.

34. United Nations, General Assembly, 28th Session, Official Records of 2124th Plenary Meeting, 24 Sept. 1973, p. 2.

35. United Nations, General Assembly, 27th Session, Official Records of 2038th Plenary Meeting, 25 Sept. 1972, p. 5.

36. United Nations, General Assembly, 29th Session, Official Records of 2238th Plenary Meeting, 23 Sept. 1974, p. 58.

37. Ibid., 54.

38. Selcher, Brazil in the Global, 9.

39. Ibid., 15.

40. Perry, Contemporary Foreign Policy, 38.

41. Ibid., 42.

42. Yale H. Ferguson, "Trends in Inter-American Relations: 1972-Mid-1974," in Latin America: The Search for a New International Role, eds. Ronald G. Hellman and H. Jon Rosenbaum (New York: SAGE Publications, Inc., 1975), 7. While some have viewed Brazil's growing power with concern, others could stand to gain from this rise. Ecuador and Chile, in particular, would be able to secure strong economic and military ties with Brazil--thus leaving their traditional rivals (i.e., Argentina) off balance.

43. Perry, Contemporary Foreign Policy, 46.

44. "Mercados abertos no sul." Veja, 18 June 1975, 19.

45. In retaliation, Argentina began in 1977 to work on its own reprocessing plant, and by 1983, it announced the existence of a secret enrichment plant capable of producing weapons-grade material. Brazil, in turn, announced that it was on the verge of mastering nuclear technology so that it "will be able to produce armaments, including the atomic bomb;" as quoted in George D. Moffett, "Argentina and Brazil reportedly agree to major A-plant pact," The Christian Science Monitor, 18 March 1985, p. 3.

46. Young, Brazil: Emerging, 76.

47. J. O. de Meira Penna, Política Externa: Segurança e Desenvolvimento (Rio de Janeiro: Livraria Agir Editora, 1967), 149.

48. "Brasil reconhece Guiné e pede seu ingresso na ONU." Jornal do Brasil, 19 July 1974, p. 3.

49. Ministério das Relações Exteriores, Relatório (Brasília: Serviço de Publicações, 1975), 112.

50. Ibid., 113.

51. "Brasil reconhece o Governo na Capital," Jornal do Brasil, 11 Nov. 1975, p. 10.

52. H. Jon Rosenbaum and William C. Tyler, "Latin American Economic Relations with the Third World," in Latin America's New Internationalism, eds. Roger W. Fontaine and James D. Theberge (New York: Praeger Publications, 1976), 187.

53. Letter, Zbigniew Brzezinski to General Golbery, 20 April 1978, "TR 25-2 1/20/77-4/20/78," Box TR-17, WHCF-Subject File, Jimmy Carter Library, Atlanta, Ga.

54. Fundação IBGE, Anuário Estatístico do Brasil (Rio de Janeiro: Departamento de Divulgação Estatística, 1977), 523.

55. Quoted in "Resistência à política externa," Visão, 8 Dec. 1975, 30.

56. Translated from the original Portuguese in Roberto Pereira, "A Natureza Política da Produção de Armamentos no Brasil," in Militares: Pensamento e Ação Política, ed. Eliézer Rizzo de Oliveira (Campinas, SP: Papirus, 1987), 118.

57. Renato P. Dagnino, "A Indústria de Armamentos Brasileira: Sua Importância para a Avaliação da Relação Militares-Estado e Sociedade," in Militares: Pensamento e Ação Política, ed. Eliézer Rizzo de Oliveira (Campinas, SP: Papirus, 1987), 128-9.

58. We use the term "bellico-industrialist" here to mean the industrial sector involved in the production of armaments. The term is derived from the Portuguese "indústria bélica," or armament industry.

59. Pereira, "A Natureza Política," 121-2.

60. Michael Brzoska, "The Military Related External Debt of Third World Countries," Journal of Peace Research 20 (1983): 271.

61. Clóvis Brigagão, "Cancelamento do Acordo," Revista Brasileira de Política Internacional 21 (1978): 107-8.

62. *Ibid.*, 108.

63. Alexandre de Barros, "Brazil," in Arms Production in Developing Countries, ed. James Everett Katz (Lexington, Mass.: D. C. Heath and Company, 1984), 73.

64. Roberto Godoy, "A Indústria Militar no Brasil," in Militares: Pensamento e Ação Política, ed. Eliézer Rizzo de Oliveira (Campinas, SP: Papirus, 1987), 107.

65. See "Mudam os tempos, mudamos todos," Banas 1295 (1985): 26-7, for a general overview of the importance of São José dos Campos in the Brazilian arms industry.

66. "Armas, o novo aliado da balança comercial," Negócios em EXAME, 4 Nov. 1981, p. 46.

67. Pereira, "A Natureza Política," 123.

68. *Ibid.*, 124.

69. Alexandre de Barros, "O Modelo da Indústria Bélica Brasileira: História e Implicações," in Militares: Pensamento e Ação Política, ed. Eliézer Rizzo de Oliveira (Campinas, SP: Papirus, 1987), 97.

70. Paul L. Ferrari, Raúl L. Madrid and Jeff Knopf, U.S. Arms Exports: Policies and Contractors (Cambridge, Mass.: Ballinger Publishing Company, 1988), 8.

71. Saadet Deger, Military Expenditure in Third World Countries (Boston: Routledge & Kegan Paul, 1986), 162-3; James Nelson Goodsell, "Brazil cashiers military government, but cashes in on arms sales," The Christian Science Monitor, 14 Jan. 1985, p. 11.

72. Clóvis Brigagão, "O Mercado de Segurança," in Militares: Pensamento e Ação Política, ed. Eliézer Rizzo de Oliveira (Campinas, SP: Papirus, 1987), 109-15.

73. Alan Riding, "Brazil's Burgeoning Arms Industry," The New York Times, 3 Nov. 1985, p. C4; Michael Sieniawski, "Brazil cashes in with open-door policy on arms sales," The Christian Science Monitor, 12 Nov. 1982, p. 15; Judith Miller, "Third-World Lands Joins Ranks of Arms Exporters," The New York Times, 13 Dec. 1981, p. 20; Everett G. Martin, "Argentina Develops Its Own Nuclear Facilities, But National Austerity Hampers the Program," The Wall Street Journal, 29 Nov. 1984, p. B36; and Warren Hoge, "Brazil's Arms Find Willing Buyers in the Third World," The New York Times, 9 Aug. 1981, p. E3.

74. Brigagão, "O Mercado de Segurança," 109.

75. Jim Brooke, "Dateline Brazil: Southern Power," Foreign Policy 44 (Fall 1981): 175.

76. Sieniawski, "Brazil cashes in."

77. "A Major Contender in the Arms Business," Business Week, 31 July 1978, 45.
78. Deger, Military Expenditure, 162.
79. Miller, "Third-World Lands."
80. Ibid.
81. Riding, "Brazil's Burgeoning Arms."
82. "Avibras Seeks Better Balance of Domestic, Export Business," Aviation Week & Space Technology, 25 June 1984, 209.
83. By the mid-1980s, Embraer had diversified its production to include 10 different types of airplanes: EMB-110 Bandeirante, EMB-121A1 Xingu II; EMB-312 Tucano; EMB-201A Ipanema; Corisco Turbo; Tupi; Minuano; Sertanejo; Seneca III; and Carajá.
84. Martin, "Argentina Develops."
85. Deger, Military Expenditure, 162.
86. Riding, "Brazil's Burgeoning Arms."
87. Eduardo Augusto Guimarães, José Tavares de Araújo Jr., and Fábio Erber, A política científica e tecnológica (Rio de Janeiro: Jorge Zahar Editor, 1985), 80.
88. Valentim Roque Giancesini, interview with author, São José dos Campos, Brazil, 14 March 1991. Mr. Giancesini is a personnel officer at Embraer.
89. Interview with an aircraft industry official who asked not to be identified, São José dos Campos, Brazil, 14 March 1991.
90. Clifford A. Kiracofe, Jr., "Brazil: An Emerging Strategic Factor in the Southern Atlantic," The Journal of Social and Political Studies 5 (Fall 1980): 221.
91. Raimo Väyrynen, "Economic and Political Consequences of Arms Transfers to the Third World," Alternatives 6 (March 1980): 151.
92. Clóvis Brigagão, "The Case of Brazil: Fortress or Paper Curtain?" Impact of Science on Society 31 (January-March 1981): 17-31.

93. David M. North, "Embraer Expands Its Facilities for Two New Aircraft," Aviation Week & Space Technology, 22 Aug. 1983, 144.

94. Brooke, "Dateline Brazil," 174-5.

95. Riding, "Brazil's Burgeoning Arms."

96. Paulo Kramer, "As Relações Militares Brasil-Estados Unidos," Política e Estratégia 4 (January-March 1986): 44-53.

97. Skidmore, The Politics of Military Rule, 195.

98. Memo, Robert Pastor to Jody Powell and Jerry Schecter, 18 Oct. 1977, "CO 22 9/1/77-12/31/77," Box CO-13, WHCF-Subject File, Jimmy Carter Library, Atlanta, Ga.

99. Ethan B. Kapstein, "The Brazilian Defense Industry and the International System," Political Science Quarterly 105 (Winter 1990-91): 585.

100. "Uma diplomacia," Veja, 16 March 1977, 25.

101. Memo, Robert Pastor, 18 Oct. 1977.

102. Letter Attached to Memo, C. Arthur Borg to Zbigniew Brzezinski, 7 March 1977, "CO 22 1/20/77-8/31/77," Box CO-13, WHCF-Subject File, Jimmy Carter Library, Atlanta, Ga.

103. The following account in this paragraph came from "Após rejeição de ajuda, o novo passo era inevitável," O Estado de S. Paulo, 12 March 1977, p. 13.

104. "Bonn retarda," O Estado de S. Paulo, 5 March 1977, p. 1.

105. O Estado de S. Paulo, 6 March 1977, p. 1.

106. "Uma diplomacia," Veja, 16 March 1977, 22.

107. Ibid., 20.

108. "Brasil denuncia," O Estado de S. Paulo, 12 March 1977, p. 1.

109. "Uma diplomacia," Veja, 16 March 1977, 20.

110. Clóvis Rossi, "Denúncia é resposta às pressões dos EUA," O Estado de S. Paulo, 12 March 1977, p. 13.

111. "A decisão surpreende," O Estado de S. Paulo, 12 March 1977, p. 1.
112. "Uma diplomacia," Veja, 16 March 1977, 21.
113. "Exame," O Estado de S. Paulo, 12 March 1977, p. 13.
114. *Ibid.*, 14.
115. "É desdobramento," O Estado de S. Paulo, 12 March 1977, p. 16; translation from the original statement in Portuguese.
116. *Ibid.*; translation from the original in Portuguese.
117. *Ibid.*; translation from the original in Portuguese.
118. "Europa surpresa," O Estado de S. Paulo, 12 March 1977, p. 15.
119. *Ibid.*
120. "Angry Brazil," The Washington Post, 12 March 1977, p. A8.
121. "Oficiais," O Estado de S. Paulo, 12 March 1977, p. 15.
122. "Ultimo ato," O Estado de S. Paulo, 12 March 1977, p. 13. The negotiations for this last payment were indicative of the differences already brewing between the two countries even before the cancellation of the agreement. The United States first expected to receive \$60 million for the borrowed equipment. Brazilian officials did not even consider the proposal. The United States then reduced it to \$30 million. Facing continuing rejection from Brasília, the bill was further reduced to \$2 million and then \$600,000. Finally, the United States agreed to the amount first proposed by Brazilian officials: \$350,000.
123. "Uma diplomacia," Veja, 16 March 1977, 20.
124. "Documento," O Estado de S. Paulo, 12 March 1977, p. 15.
125. *Ibid.*
126. *Ibid.* As indicative of the new policy of diversification of suppliers--both domestic and abroad--during the same day that Brazil announced the cancellation of the 1952 agreement, France announced that it was "extremely" interested in increasing its cooperation with Brazil in the area of arms production; see "Uma diplomacia," Veja, 16 March 1977, 24.

127. "Oficiais," O Estado de S. Paulo, 12 March 1977, p. 15.

128. After the cancellation, Brazilian military officers said Brazil's national security strategy would not change as far as the defense of the continent, since that was covered under multilateral arrangements (e.g., Rio Treaty). "Brasil denuncia," O Estado de S. Paulo, 12 March 1977, p. 1.

129. Kramer, "As Relações Militares."

130. Ibid., 46.

131. "Uma diplomacia," Veja, 16 March 1977, 24.

132. "Angry Brazil," The Washington Post, 12 March 1977, p. 8.

133. "Brazil's Nuclear Choice," editorial, The Washington Post, 7 March 1977, p. A20.

134. Don Oberdorfer, "State Dept. Lists Rights Conditions in 82 Countries," The Washington Post, 13 March 1977, p. 1.

135. "Sem resposta," Veja, 23 March 1977, 23; translation from the original in Portuguese.

136. Ibid.

137. "Brazil Cancels," The New York Times, 20 Sept. 1977, p. 8.

138. Skidmore, The Politics of Military Rule, 197.

139. Memo, Robert Pastor to Zbigniew Brzezinski, 4 Nov. 1977, "TR 16-2 1/20/77-1/20/81," Box TR-14, WHCF-Subject File, Jimmy Carter Library, Atlanta, Ga.

140. Tab A Attachment to Memo, Robert Pastor to Zbigniew Brzezinski, 4 Nov. 1977, "CO 22 9/1/77-12/31/77," Box CO-13, WHCF-Subject File, Jimmy Carter Library, Atlanta, Ga.

141. Memo, Robert Pastor to Zbigniew Brzezinski, 4 Nov. 1977, "CO 22 9/1/77-12/31/77," Box CO-13, WHCF-Subject File, Jimmy Carter Library, Atlanta, Ga.

142. "Um convívio melhor," Veja, 5 April 1978, 16.

143. As quoted in Luiz Weis, "E, para alívio de todos, ele veio em paz," Veja, 5 April 1978, 22.

144. Attachment to Letter, Luke Tsung-Chou Lee to President Carter, 7 Aug. 1978, "TR 25-2 4/21/78-1/20/81," Box TR-17, WHCF-Subject File, Jimmy Carter Library, Atlanta, Ga.

145. Ibid.

146. "Um convívio melhor," Veja, 5 April 1978, 19.

147. Letter, Jimmy Carter to Ernesto Geisel, 31 March 1978, "ME 1/CO 22 1/20/77-1/20/81," Box ME-12, WHCF-Subject File, Jimmy Carter Library, Atlanta, Ga.

148. Letter, Richard E. Johnson to Zbigniew Brzezinski, 4 April 1978, "TR 25-2 1/20/77-4/20/78," Box TR-17, WHCF-Subject File, Jimmy Carter Library, Atlanta, Ga. Following the president's visit, Donald E. Mathes, branch public affairs officer of the International Communication Agency in the U.S. Consulate General in São Paulo, wrote Jody Powell, U.S. presidential press secretary, with this reaction: "Brazilian press reaction to the President's visit turned out basically positive. The national press was virtually unanimous in saying that U.S.-Brazil relations are on a more solid footing as a result of the visit;" see Letter, Donald E. Mathes to Jody Powell, 2 May 1978, "TR 25-2 4/21/78-1/20/81," Box TR-17, WHCF-Subject File, Jimmy Carter Library, Atlanta, Ga.

149. Weis, "E, para alívio de todos."

150. Ibid.

151. United States, Department of State, Briefing Paper, attachment to Memo, Peter Tarnoff to Zbigniew Brzezinski, 17 Dec. 1980, "CO 22 5/1/78-1/20/81," Box CO-13, WHCF-Subject File, Jimmy Carter Library, Atlanta, Ga.

152. Organski, World Politics.

153. Andrew J. Pierre, The Global Politics of Arms Sales (Princeton: Princeton University Press, 1982), 29.

154. Barros, "O Modelo da Indústria Bélica," 98.

155. Alves, State and Opposition, 3.

156. Ibid., 13-28.

CHAPTER 5 FACING THE PARADOX, 1980-1985

Brazil's arms industry stands out as an obvious example of the country's industrial transformation in the last three decades. Nevertheless, the success of Brazil's export policy has come at the high price of growing technological dependence on foreign suppliers. This pattern of dependence reflects in general the forms of technology transfer that encourage economic development, but at the same time perpetuate the need for additional technological upgrades. The simple import of technology does not necessarily characterize the dependent status of Brazil. After all, many developed countries also import technology from foreign sources, the Japanese case being the most successful one in recent decades. What distinguishes developing from developed countries is, in part, the ratio of local research and development to the amount of technology imported. While in Japan this ratio (local R&D/technology imports) is six to one, in Brazil it is only two to one.¹

In order to determine the reasons as to why Brazil exhibits such a low ratio, this chapter will explore the structural constraints to technological autonomy. Chapter 2 heralded technology transfers as offering an enabling mechanism for middle powers to upgrade their technological capabilities.

This chapter will discuss the structural limitations to a successful development of indigenous technology. The insertion of Brazil's economy in the international market as a supplier of primary goods downgraded the need for intensive local scientific research. Once thrust into the competitive market of advanced industrial products in the second half of the 20th century, the Brazilian scientific community proved deficient. The state and industry, therefore, resorted to short-term policies of technology transfers, which has reinforced the limitations of local science. As a result, Brazil tends to be a technology-taker, rather than a technology-leader.

In the name of national security, highly industrialized states also have placed mercantilist controls on the types of technology being transferred to developing countries. The technology that eventually filters into the developing market is often already standard, if not completely obsolete, which leads to no competitive advantage for the recipient. These constraints--both from internal scientific deficiency and external restrictions on the technological flow--reflect the "squeezing" condition of being a middle power in the current international system. On the one hand, the system provides enabling incentives for upward mobility (technology transfers) while at the same time both internal and external pressures work against such a mobility. For a country like Brazil, which chose open defiance against a strong technology supplier (the United States), the cost of mobility (under the banner of national security) has been painful, particularly because of the collapse of its "grandeza" project following the economic crisis in the 1980s.

This "squeezing" effect characterizes the nature of the paradox of national insecurity we have been discussing. In the Brazilian case, the paradox unfolded in the 1980s, as Brazil attempted to preserve an internationally competitive arms industry while becoming increasingly dependent on foreign technology. The inability to upgrade its weapons systems fast enough to conquer new markets has limited its strategic niche, which in turn has threatened the very survivability of the industry as a whole. Faced with this daunting reality, Brazil returned to the bargaining table and signed a new military memorandum of understanding with the United States. On the supplier side, the United States committed itself to transfer military technology to Brazil, albeit at the risk of third parties' gaining access to sophisticated weapons via Brazilian arms exports.

The two sides' willingness to sign a memorandum has not necessarily led to an automatic rapprochement. Each side has remained locked in its position, with Brazil emphasizing its search for autonomy, and the United States worrying about Brazil's arms dealings with "foes" such as Libya and Iraq. The signing of the memorandum is more telling of the structural forces bringing the two sides together rather than necessarily showing any improvement in bilateral relations. In fact, few would dispute the fact that since the 1970s, U.S.-Brazilian relations have deteriorated dramatically. These forces toward "cooperation," though, grow out of the realization that each side needs the other for its own individual national-security objectives.

Science and Technology in Brazil

The previous chapter discussed the development of the arms industry, as an outcome of technological transformation. This chapter details technology policy per se--technology being the foundation of a competitive industry. In order to explain the roots of technological dependence as a structural phenomenon, we have to establish a link between the context of technology policy-making and the position of Brazil in the international economic structure. In the previous chapter, armament production was presented as an agency phenomenon (the active pursuit of national security through the promotion of autonomy from foreign suppliers). In this chapter we place that pursuit within a context, much as we would observe a living organism (e.g., a wild animal) and attempt to establish the relationship between that organism and its surrounding environment (e.g., a wild animal roaming a forest). In this chapter, therefore, we place the arms industry in the international market and uncover the sources of insecurity in Brazil's technological dependence.

Before discussing this agency-structure interrelation in Brazil's national security policy-making, this section provides the general background on science and technology in Brazil. At the outset of this discussion, we should clearly distinguish between science and technology. While the former refers to the knowledge and understanding of basic operations of nature, the latter entails the use of that knowledge toward the solution of practical problems. At the economic level, technology includes the commercial application of

scientific knowledge. Science develops to some extent separately from industry, but modern technology goes hand-in-hand with the expansion of an industrial society.

Science provides the basis for the continuing growth of technological applications. Technology also has aided science in that it provides the instruments through which new scientific discoveries take place. The distinction is important because we notice that science diffuses across borders much more easily than does technology. The nuclear age is an excellent case in point. While a nation may, through competent scientists, fully grasp the details of nuclear physics, the technological application is several decades away for many of those nations because of international restrictions and local resource deficiencies (labs, reactors, nuclear fuel, etc.). Nations find it extremely difficult to monopolize science, but, as Chapter 2 indicated, they readily attempt to control the flow of technology.

On the recipient end, it is actually easier to absorb--in the short-run--modern technology than scientific discoveries. The absorption of science depends on a solid educational infrastructure, which many Third World nations do not have and which would take years to acquire. Technological absorption, particularly through licensing agreements, depends on the training of a few technicians and engineers, which can be arranged with short courses at home or abroad. In the Brazilian case, we see that science received little institutional support, given the country's "agricultural" vocation in the international division of labor in the past

century. During its colonial and even empire period, Brazil paid little attention to developing a comprehensive science and technology (S&T) policy. As a supplier of primary products to the international market, there was scant interest among the aristocracy in S&T.

The burst of technological development in the Brazilian industry is, therefore, a recent phenomenon compared to the long history of investment in science and technology in highly industrialized countries (which dates back to the last century). As a late-comer in the Industrial Revolution, Brazil has had to overcome not only its own internal lack of human resources (scientists, engineers, university professors, etc.) but also the strides of technological innovation which have transformed the very meaning of industrialization.²

Today, knowledge has replaced the smokestack as the foundation of a country's economic vitality. The gap between those who command as well as generate technology and those who attempt to master it promises to grow wider and wider. Chapter 2 outlined the catch-up struggle for late-industrializers such as Brazil. The present chapter explores in detail the Brazilian experience in developing its own science and technology policy and its application to the arms industry.

There are those who view this seeming lack of interest in science and technology as a cultural expression of Brazil's colonial heritage. For instance, Shozo Motoyama views this scientific neglect as part of the immediatismo (immediacy) that Brazil inherited from Portuguese mercantilist culture,

which stressed old patterns of short-term gains over a more deepened socioeconomic development of society as a whole.³

What distinguished the Iberian from the Anglo-Saxon cultures, as the argument goes, was that the latter coordinated science and technology as a way of embedding scientific discovery into socioeconomic transformation. The Iberian economic model (based on mercantilist values) ignored the importance of pure science in innovation, while placing emphasis on the immediate applicability of technological progress. The Portuguese naval exploits in the Atlantic brought quick returns to the crown. However, Portugal retained much of its "medieval lethargy" with its scholastic and religious emphasis, while other European countries leapt into the extraordinary unfolding of science in subsequent centuries.⁴ In modern Europe, technological innovation came to depend much more closely on developments in pure science. As a result, the Anglo-Saxon societies boomed industrially, while the Iberian empires collapsed.

We should be careful here not to draw any cultural theory of development, lest we be prepared to take the value-laden road of viewing Anglo-Saxon culture as superior because of its evident economic success. As Francisco Antônio Cavalcanti da Silva reminds us, the same inferior status was once assigned to Japanese culture, and today few would dispute that country's commercial power and technological prowess.⁵ There is no denying the fact that, in general, poor countries emphasize little scientific research and technological innovation. But, as Silva correctly points out, these

"cultural" factors shows us more the effects of other socioeconomic determinants, rather than solely the cause of future "backwardness."⁶

A more productive analytical road can be taken by addressing the interrelation between the development of technology and the position of the country in the international system. Brazil, as a Portuguese colony, did inherit the Iberian economic model, but it was within the context of its international niche (sugar and coffee production) that its local industry attempted to grow. Industry received little state support in the pre-Republican period, not because of "cultural" determinants but because the landed aristocracy controlled the state. Amaury Fassy does not so much find cultural resistance to modernity in Brazil during that period as he finds a severe local deficiency in educational institutions. Satisfied with its condition as an exporter of agricultural products and raw materials, the Brazilian monarchy (1822-1889) had little incentive to invest heavily in scientific research and the development of modern technology.⁷

Weak scientific research at home contributed to slow technological development, as well. Consequently, foreign technology from early on was viewed as superior, which in turn further downgraded the importance of local science due to the increasing volume of technology transfers. This unfolding circular perception reminds us in recent decades--as a legacy of its colonial and monarchical periods--Brazil has had to overcome not only the "real" technological gap, but also its own sense of inferiority in relation to local scientific research.

The struggle between landed aristocracy and an incipient industrialist class in the first decade of this century marked the beginning of an avid interest in S&T. By siding with industrialization and abandoning Brazil's "agricultural vocation," the state itself laid the foundation for future investments in S&T. A by-product of this rapid local economic expansion was the development of an educational infrastructure, from which an interest in science and technology sprung. We see, for instance, the creation of a Ministry of Education at the federal level in the 1930s, as well as the founding of the University of São Paulo (USP) in 1934, today a world renowned research institution. In fact, between 1930 and 1949, 160 college-level institutions were founded, two and a half times the total of similar institutions created during the First Republic (1889-1930).⁸

The Great Depression in 1929 provided an additional stimulus toward industrialization and import substitution because the international system became embroiled in a trade war which significantly cut commercial relations. Import substitution, while increasing the local content of consumer goods, also increased the demand for capital goods, which the local industry was not prepared to supply. As a result, capital goods had to be imported, heightening dependence on foreign technology during the early phase of ISI.⁹ We see dependency here as a structural phenomenon because it came as part of a continuing immediatismo (import substitution), both as a result of World War I and the Great Depression. The substitution of imports did not necessarily mean the local development of technology. While S&T appeared

in this period as a local concern, the country relied on foreign experts and knowledge for its own industrialization process. From a S&T policy standpoint, ISI in the 1930s actually retarded the socialization of the country toward an interest in pure science as a complement to technological innovation.¹⁰

World War II played a significant role in awakening Brazil to its own scientific backwardness. The explosion of the first atomic bomb shocked policy-makers into the startling realization that technology was not attainable without a scientific base in society itself. In 1948, the founding of the Brazilian Society for the Advancement of Science (*Sociedade Brasileira para o Progresso da Ciência*, or SBPC) marked a monumental step in the scientific development of the country. SBPC's annual meetings provided a forum for researchers to present their projects and receive feedback from a rigorous scientific community.¹¹

The progress of scientific development at the societal level was matched at the state level with the creation in 1951 of the National Research Council (*Conselho Nacional de Pesquisas*, or CNPq). During the *Estado Novo* in the 1930s, President Vargas had toyed with this idea, but it had received little support among the industrial elites, again because of the relatively easy access the industry had to foreign technology.¹² Drawing on the growing interest in the country for mastering nuclear technology after World War II, the idea of a national research center gained wide support, culminating with the creation of the CNPq.

The domestic industrial sector benefited widely from the post-war expansion of foreign investment, bringing with it the technological base that the local industry lacked. In Brazil, for instance, the automobile industry--a major contributor to arms production in subsequent decades--was established during the 1950s. The creation of CNPq was particularly geared toward nuclear research, given the emerging Cold-War order in which nuclear technology played a major role in national security. In the "Planos de Metas" of Kubitschek's administration (1956-1960), science and technology received some institutional support, but the scarce resources did not allow the federal government to energize the incipient scientific community. The Plan did include the development of a durable consumer goods industry, which also encouraged the increased use of foreign technology, which arrived in the country primarily through multinationals. The pattern of specialization that evolved in the immediate post-war period constituted a triple alliance: The state took care of basic, heavy industrial items such as oil and steel; the MNCs concentrated on high technology (pharmaceuticals, electrical equipment, communications, etc.); and the local capital specialized in more traditional technologies such as shoes and textile.

The military regime in power after 1964 attached great importance to the security aspect of technological development, as the previous chapter showed. Military presidents encouraged an expansion in the number of scientists and research institutions. In the "Great-Power" project, the state took the lead in fomenting indigenous technological progress. Once again,

just as in the 1950s, local scientific and technological development came as an association between local and foreign capital. Therefore, the international system played a critical role in directing research and development at the local level.

While the military government showed an unprecedented support for local science and technology, the economic crisis the country faced in the early 1960s diverted the policy agenda toward more pressing issues, such as stabilizing the economy. The "Programa de Ação Econômica do Governo" under the first military government (Castello Branco) gave high priority to fighting inflation, while leaving foreign investments as the main supplier of new technology for the local industry.¹³ Once the economic crisis was under control, the government was able to fashion more concrete policies toward science and technology.

This shift in policy attention marks, in Fassy's view, the beginning of a new phase in local technological development.¹⁴ As industrialization rapidly expanded by the late 1960s, foreign investment alone could not supply the new technology needed in local production. The military regime, therefore, saw the growing need for using state funding for promoting local technological progress. The Costa e Silva administration, under his "Programa Estratégico de Desenvolvimento," or PED, (1968-1970) was responsible for introducing for the first time specific policy objectives for technological innovation, as well as the creation of a "Fundo Nacional de

Desenvolvimento Científico e Tecnológico" (FNDCT) under the Decree-Law No. 719 of July 31, 1969.

Science gained in value during this period because it could supply the technology through which Brazil could attain its great-power status.¹⁵ PED served as the basis for the following administration (President Medici) to formulate the first "Plano Nacional de Desenvolvimento" (1972-1974), or I PND. The plan had as one of its main objectives to move Brazil within a generation to the category of a developed nation. Within this context, simply relying on foreign technology was not enough. For the 1973-1974 period, the government formulated the first "Plano Básico de Desenvolvimento Científico e Tecnológico" (PBDCT), which included as one of its main objectives to reduce the dependence on foreign technology through a more concerted effort to absorb imported technology and the creation of local know-how.¹⁶

As President Geisel came to office in 1974, a new economic plan was drawn, under the name II PND (1975-1979), along with a II PBDCT. The plans gave priority to the local production of capital goods and the electronic industry, in particular the computer industry. The origins of the Brazilian computer policy are found in the Navy's electronics research during the Medici administration (1970-74).¹⁷ This was directly linked to the Brazilian Navy's increasing acquisition of technologically advanced ships from other countries (i.e., Britain), which meant a dependence on foreign technological expertise for data processing.¹⁸

As the country entered a period of economic crisis in the mid- and late-1970s, there was once again, just as in Castello Branco's period, a renewed interest in stabilizing the economy rather than expanding its technological capacity. This shift in policy objectives is evident in the III PDN (1980-1985), drawn during the Figueiredo administration. The plan contained only one page devoted to science and technology, making simply passing references to goals under previous plans without introducing any new objectives. Support for research institutions and scientific groups was weakened under the new plan.

The evolution of the S&T policy in the post-World War II period reflected the same type of imediatismo that had dominated economic policy in the 19th century. This time, the state was the one actively participating in the development of technological capability, for the sake of transforming the country into a great power. Motoyama characterizes this policy orientation as mercantilist.¹⁹ His contention, however, should be critically considered, because technology policy in any country, as developed in the post-World War II period, was by nature mercantilist. There is, in other words, nothing in Brazil's technology policy that was not actively pursued by other developed or developing nations. U.S. technology export controls had the explicit intent of keeping the Soviet military from taking advantage of scientific discoveries in the West. As Aaron L. Friedberg recently argued,²⁰

Because of the perceived importance of maintaining the technological superiority of U.S. over Soviet weapons systems, the U.S. government also devoted significant

resources to encouraging scientific education and basic research and supporting more narrowly focused defense and space-related research and development work. The primary purpose of these undertakings was to enhance the nation's physical security. It was certainly hoped (and sometimes claimed) that spin-offs from government-funded programs would help to maintain the U.S. lead in advanced civilian technologies. But, if this did occur, it was seen as a secondary and largely fortuitous by-product of money spent for other reasons.

What set Brazil apart from the mercantilist technology policy mentioned above was the government's lack of integration between scientific infrastructure at the societal level and technological innovation at the state-sponsored research institutions. The primacy of industrialization under a military regime was characterized by a centralized policy network that drew little from the scientific community, as noted by the repression of the scientific community in the late 1960s under the AI-5 (a presidential institutional act that limited constitutional rights based on "subversive" leanings). In the 1970s, as the military regime negotiated the transfer of nuclear technology from West Germany, prominent scientists were kept from basic negotiations because some of them had expressed reservations about the Brazilian nuclear program. Instead, technocrats were left in charge of making scientific decisions.

Brazilian mercantilism, as expressed in its S&T policy, envisioned the quick development of technology with commercial applications, but wasted little concern on the dissemination of that development toward society in general. The state took the lead in supporting research institutions, with the

express aim of fostering "security and development." As Table 5-1 shows, the state dominated the research effort either through government institutes or through the university system, which is dominated by state research institutions. The private sector, however, played a minor role in this effort. With industrialization well established and a rapid economic expansion under way, the state (including the university system) increased its research effort.

Society in general benefited little from the state effort, other than from the export revenues that eventually trickled down to research institutions at the university level. There was hardly an attempt to integrate basic research and pure science to the state industrialization aims. Such a connection would have fostered the social deepening of the scientific revolution that developed countries were undergoing. From this analysis, Motoyama's assertion that "S&T was never a real priority in Brazil" seems appropriate.²¹ As impressive as was the number of new research institutions established during the military regime--particularly after the "economic miracle," as Table 5-1 shows--the technological gap between Brazil and the developed nations could not be closed overnight solely through the state effort. As a result, foreign technology continued to play an important part in the domestic industry.²²

The critical importance of the state in S&T leaves the country vulnerable to the impact fiscal crises may have on the technological position of the country. The economic crisis in the 1980s, in a sense, served to aggravate this gap between the scientific community and the government's

TABLE 5-1

Distribution of Institutes Engaged in Industrial Technological Research
by Period of Founding and by Institutional Category

	<u>Federal and State Institutes</u>	<u>Private Institutes</u>	<u>Centers Linked to Universities</u>	<u>Institutes Maintained by Industrial Groups</u>	<u>TOTAL</u>
Until 1935	3	-	1	-	4
1936-1940	1	-	1	-	2
1941-1945	2	-	-	-	2
1946-1950	1	-	-	1	2
1951-1955	-	1	-	-	1
1956-1960	2	-	2	-	4
1961-1965	1	1	-	1	3
1966-1970	4	-	8	1	13
1971-1975	8	-	7	2	17
1976-1980	2	3	5	-	10
1981-1985	1	-	4	2	7
TOTAL	25	5	28	7	65

Source: Maria Regina Rinto de Gusmão, comp., Comportamento dos institutos de pesquisa tecnológica industrial no Brasil (São Paulo: IPT, 1987), 29.

S&T policy, because economic chaos heightened the need for quick technological returns in the form of immediate profits, all at the expense of basic research. Unable to deliver commercial applications, the scientific community lost its state support, while technology transfers gained in status. The economic crisis also aggravated the institutional development of human resources at a time when technology was becoming more than ever tied to educational institutions, which supplied the engineers who could manage sophisticated capital goods.²³

This disjuncture between scientific activity at the societal level and the state technological agenda was mostly noticeable in the development of an arms industry. Under a national-security strategy, the government targeted certain industries (e.g., aircraft, tanks, and missiles) and allocated scarce monetary and human resources to their expansion. This targeting policy has created a situation of "pockets" of high technological sophistication functioning side by side in a society that still lacks basic social services such as health and housing for millions of its citizens. Renato Dagnino, in an extensive study of Brazil's arms industry, argues that this developmental policy has led the arms industry to become a virtual "economic enclave" tied to the national-security prerogative of building an autonomous military production capability, but with an ever increasing need to export.²⁴ Considering that an estimated 90 percent of arms production is exported,²⁵ Dagnino's argument is very persuasive.

The "enclave" policy may be deliberate--an effort to channel scarce resources toward technological development--but it reveals the same kind of technology policy that has predominated since Brazil's independence. The interrelation between the arms industry as an "enclave" and the external market (critical to the industry's survival) exhibits similar conditions to those described by Cardoso and Falleto in their treatment of the insertion of Latin American economies in the 19th-century international division of labor.²⁶ The military has worked as an aristocracy controlling the state and deriving from it the resources necessary for a specific economic activity (arms exports). Because production is primarily for the external market, contact between the industry and society in the form of spin-offs is of little consequence, as Dagnino has documented in his study.²⁷

Another structural outcome of this disjuncture between society and state in technology policy is that technological development tends to favor the imediatismo that is required in a fiercely competitive international environment. In 1981, during the celebrations of 30 years since the founding of the CNPq, a special symposium on S&T policy drew a consensus among experts that the state in developing countries had to step up its investment in science and technology without necessarily expecting short-term results. The returns to the investment are guaranteed, but as historically demonstrated, they only come in the medium and long run.²⁸ The symposium's conclusion is very telling of the paradox of national insecurity. The imediatismo that pervades Brazil's struggle to free itself from its dependent position in the

international system only leads to new sources of insecurity: Eventually, local industry comes to depend heavily on foreign technology to purge the economy of that very same dependence on foreign technology. While technology transfers are welcome as a quick escape from technological backwardness, their increasing availability retards real investments in local scientific research for society in general.

But a more fundamental question that characterizes the paradox is this: Which members of the developing world can afford long-term solutions to present insecurities? Because the national-security policy-making demands immediate solutions to present dilemmas, imediatismo prevails. As a technology-taker with weak local institutional links to absorb the technology while generating new scientific developments, Brazil has become, as Mauro Fernando Maria Arruda suggested, an aprendiz de tudo, mestre de nada (apprentice of everything, master of nothing).²⁹ Brazil's impressive technical development in recent decades has enabled the local industry to manage complex technology with admirable results (as noted in the aircraft industry). A program manager for Lockheed, in charge of integrated logistics support for the C-130, marvelled at the Brazilian technological capacity and creativity when he delivered transport planes in 1987 to Brazil's Air Force in Rio de Janeiro.³⁰ The critical step of generating its own advanced technology, however, seems a far-away goal due to its weak scientific developmental stage at home.

The International System and the Brazilian Arms Industry

Industry is extremely dependent on state activity for research and development expenditures. Whenever the state cannot supply these resources, the importance of foreign technology grows. Such was the case in the mid-1960s after the military came to power. The same was true in the years just before the military left office. A study estimates that during the 1979-1984 period, the investment by the five largest agencies in charge of funneling money toward S&T was reduced, in real terms, by 42.5 percent.³¹ Such a reduction, given the primacy of state investment in S&T, only meant a significant increase in the pressure for more reliance on external sources of technology.

If the country were to continue to grow and improve its market position, new technology was supposed to flow in. Because the domestic market was not able to generate it, given the reduction of state participation in S&T, then foreign sources were to be utilized. Clóvis Brigagão argues that with the economic recession in the early 1980s, there was much more pressure on local firms to switch from civilian production to the armament industry, which was much more profitable and never under recession.³² Brigagão's argument proved questionable in the 1980s. The recession did affect technological innovation, because the state as the primary supplier of investment resources cut its contribution to science and technology.³³ Therefore, reliance on foreign sources of technology became paramount.

This dilemma became very real in the 1980s for the arms industry. The commercial success of the Brazilian arms industry in the late 1970s quickly reversed as the international system underwent fundamental changes in the 1980s. Several events dominated the national and global agenda in the new decade. The foreign debt had significantly reduced the purchasing power of the Brazilian military, thus tightening the market for indigenous arms. Faced with decreasing demand at home, arms producers were even more eager to export their weapons. Much of the Third World reduced its consumption of weapons given the global economic crisis and the oil glut, which reduced the demand from traditional Middle Eastern recipients. The tightening international market further threatened the economic health of the Brazilian arms industry.

The Iran-Iraq War (1980-1988) came as a welcome relief for Brazilian arms-makers, who quickly attempted to establish contacts with both sides. Iraq, Brazil's main oil supplier, became an avid consumer of Brazilian weapons, many of the transactions done through barter. At one point, for instance, an Iraqi plane landed in São José dos Campos in October 1981 and quietly received 40 tons of armaments, especially ballistic missiles and rockets from Avibrás, in a deal that was reportedly worth \$192 million.³⁴ The arms industry became so commercialized--given the need to export in order to survive--that sales of Engesa's Cascavel were even reportedly made to the Soviet Union.³⁵ The twist in national security logic is ironic, considering that in the Cold-War scenario, Brazil had openly aligned itself with the "West." In

the new scenario, the arms industry had come to measure its own security based on its ability to sell.

Renato Dagnino even goes so far as to credit the growth of the arms industry mainly to the ability of the Middle Eastern market to absorb the weapons sales.³⁶ A direct result of this dependence on a single market was that once the market collapsed, so did the industry. While the military was successful in increasing its autonomy from U.S. influence, the arms industry--established as part of that effort--continued to be heavily dependent in the 1980s on the exports of the bulk of its production.

Heavy dependence on the global market helps explain the relative absence of mechanisms of export controls during the 1980s, compared to the strict guidelines that exist in the United States. Much of the Brazilian strategic effort in the 1970s was focused on building a competitive arms industry so as to become independent from the United States. Once that was accomplished in the early 1980s, there was no concern from either military or civilian rulers to closely monitor the impact of Brazil's weapons sales on the country's foreign relations.

Before the Iraqi invasion of Kuwait in August 1990--an event that falls outside the time frame of this study--Brazil had suspended its arms shipments to Saddam Hussein's regime, not because of strategic considerations but because Baghdad had not paid its old bills. At that time, Iraq owed \$40 million to Avibrás for Astro-II missile launchers purchased in 1987, and \$90 million to Engesa. Lack of payments to Engesa led to its

financial collapse in 1989, after which it sought legal protection from its creditors.

The collapse of the Third World market in the 1980s placed the Brazilian arms industry in the serious dilemma of rethinking its strategic position in the international market. One option was that the companies could upgrade their technological sophistication so as to move up in the market toward more complex weapons systems. But in order to accomplish this, the companies would have to rely even more heavily on state-developed or foreign technology. With the state's declining ability to fund research, technology transfers were left as the only viable option.

The real dilemma arose in negotiating the type of technology to be transferred. As argued by José Walter Melo, president of the Financiadora de Estudos e Projetos (FINEP), a federal agency in charge of disbursing funds for science and technology development, the flow of military technology is never freely negotiated in the international market. Speaking at a 1984 conference sponsored by the Academy of the ESG Graduates, Melo pointed out to his audience that the developed countries only make available in the market secondary technology, or that which is about to become obsolete. The FINEP president exhorted his audience on Brazil's need "to develop its own capability to conceive, design, produce and use military equipment indispensable for the maintenance of its sovereignty."³⁷ Such advice, however, had little meaning for a state undergoing a fiscal crisis.

Speaking at the same conference, Protógenes Pires Porto, the director of administration and support of ITA and also a faculty member at the institute, viewed the European Community's technology boycott of Argentina during the 1982 Falklands War as a clear example of the leverage technology suppliers hold over recipients. When a nation falls technologically behind others or becomes dependent on foreign sources, impediments to the "Poder Nacional" (national power) result in four major areas, according to Colonel Porto:³⁸

1. Psychosocial: deterioration of the educational system; unemployment (especially in the tertiary sector); worsening of salary inequalities; loss of cultural identity; and a risk of social crisis.
2. Economic: productive sector dependent on the flow of knowledge from foreign sources in order to maintain competitiveness; capital outflow; 'denationalization' of the productive sector; and foreign indebtedness.
3. Military: difficulty in obtaining sophisticated equipment; maintenance difficulties; and impossibility of employing the principle of technological surprise.
4. Political: pressures from foreign groups; reduction of bargaining power in international forums; and inability to develop a stable policy for science and technology.

Brazil was already experiencing in the 1980s many of the consequences that Col. Porto suggested. Brazil had lost its "grandeza" dream and once again faced the prospect that its status would never go beyond the Third-World position. The Falklands War had a direct impact on the Brazilian armed forces, because it not only reinforced Brazil's material unpreparedness, but it

also showed how unreliable the United States was in defending South America from foreign intervention.³⁹ At the economic level, competitiveness in the arms market had become clearly linked to its continuing acquisition of foreign technology at a high cost. The military level constituted the most critical impediment to nation power, because Brazil increasingly met resistance from developed nations in providing military technology. For instance, the 1987 regime for restrictions on the sale of missile technology to the Third World led Brazil to seek unconventional sources such as China, further complicating the foreign-policy position of Itamaraty.

At both the military and political levels one sees U.S.-Brazilian military relations deteriorating. U.S. support of Britain in the Falklands War in 1982 drove a wedge between Brazil and the United States, because, in the former's view, it delegitimized all of the Atlantic Defense Structure, which had been set after World War II during the Cold War.⁴⁰ Instead, the 1982 war had a North-South overtone, which clearly left Brazil in the difficult position of having to support an old rival.⁴¹ In a sense, the Malvinas crisis confirmed for Brazil the primacy of North-South relations over the old Cold War order.⁴²

The 1984 Defense Technology-Transfer Agreement

The previous section stresses that the development of an arms industry had become by the 1980s increasingly a function of its performance in the international market. The highly competitive environment, as argued

earlier, led to the incessant need to upgrade production with more and more sophisticated technology. Foreign supplies, therefore, were important complements to domestic efforts at technological innovation. It is within this context that Brazil returned in the early 1980s to the bargaining table and signed another military agreement (this time a memorandum of understanding) in which the United States agreed to transfer defense technology rather than finished products, as the 1952 agreement had stipulated.

U.S. willingness to transfer advanced defense technology to Brazil came at a time when the Reagan administration sought to use arms transfers as an instrument of diplomacy.⁴³ The United States attempted in the 1980s to regain some of its own superpower prestige in Latin America through an active policy of seeking closer relations with the region. At an address before the American Chamber of Commerce in São Paulo on August 19, 1981, Thomas O. Enders, assistant secretary for inter-American affairs, voiced the Reagan administration's position on U.S.-Brazilian relations for the 1980s: "Perhaps it is time to revitalize our relationship, time to improve coordination and cooperation, time to consult on a widening range of issues, time not for nostalgia but to build new links."⁴⁴

Barely a year later, Enders went to Congress in a hearing before the House's Subcommittee on Inter-American Affairs and voiced the same hope for improved relations.⁴⁵ He argued at the hearing that the security side of the bilateral relationship was recovering from the 1977 "shock" of the

cancellation of the military assistance agreement. In counterpart to the use of the word "shock," Enders himself acknowledged that in retrospect, "we would all agree that the specific agreements in question had been overtaken by history and events, and that they were no longer appropriate to the conduct of a mutually satisfactory security relationship."⁴⁶ In proposing to move beyond the 1952 arrangement, the assistant secretary introduced the importance of technology transfers to bilateral relations:⁴⁷

It is not likely that Brazil will turn back to the U.S. for major military purchases except possibly as a supplier of specific technologies for production in Brazil under licensing arrangements. The United States has arrangements of this kind with a number of close allies. Perhaps it would be worth considering whether they would not be appropriate with Brazil.

The critical question for the U.S. Congress, therefore, was to verify how close an ally Brazil really was. Brazil did not share the same enthusiasm for reviving the Cold War in the early 1980s because of its commercial gains due to a "pragmatic" foreign policy since the Geisel administration.⁴⁸ By the 1980s, U.S.-Brazilian relations had reached a different level of sophistication, as Brazil attempted to move beyond the "responsible pragmatism" that dominated the Geisel agenda. Aware of the new status of Brazil in the international system, Itamaraty stressed a "universalismo" that entailed a twin identity of Brazil as both part of the Western and Third worlds.⁴⁹ This position envisioned Brazil's ability to transit freely between worlds, depending on the issue area. Brazil's "universalismo" proved unrealistic

because the "grandeza" dream had failed to be materialized. The deep economic crisis in the 1980s further pushed the country closer the Third World side. Besides, the North never fully accepted Brazil's "Western" position, unless it meant the loss of preferential treatment (a result of full graduation to the club of developed nations), which Brazil was not ready to accept.

At the same Congressional hearing, John Hugh Crimmins, the U.S. ambassador to Brazil in 1977 during the Carter-Geisel confrontation, was not optimistic about the Reagan administration's attempt to bridge the "formidable gap" between the two nations. Crimmins summed up well each side's perception as to the intention of the other:⁵⁰

Brazil fears, or suspects, that: the United States is not really prepared to accept a truly independent, strong Brazil as a new member of the world's powerful and influential states; that the United States is not disposed to help Brazil in the pursuit of its aspirations; that the United States wishes to have Brazil assume obligations that would impair Brazil's freedom of action or that it is not yet capable of taking on; and that the United States, not having adjusted to the 'Brazilian reality', seems to want to keep Brazil dependent.

On the other side of the coin:

the perception of the United States is that Brazil has already reached the point at which it should be pulling its proportionate weight in the world community on the side of the West; that Brazil, in its insistence on maximum space of maneuver is trying to get a free ride; that Brazil, although evading responsibilities, demands that its 'specific gravity' be recognized and catered to; and that Brazil refuses to recognize legitimate constraints on the U.S. ability to accommodate it.

It was within this context that the United States proposed a new military agreement. The possibility of U.S. defense technology transfers was enough of an inducement for Brazil to return to the negotiating table. Having already mastered the technology for light armament, the military was particularly interested in tapping more sophisticated technology, such as microelectronics and long-range and precision-guided missiles. During President Reagan's visit to Brasília in November 1982, the two countries established five working groups, one of which would study technological and industrial cooperation in the military area. Reception of the idea in Brazil was mixed, with a respected Brazilian business magazine, Senhor, characterizing the U.S. effort as "arms-twisting" (a clever play on words, given the military nature of the negotiations).⁵¹

The author of the magazine article, Luís Mir, argued that the cancellation of the 1952 agreement had encouraged the development of an independent arms industry. With the creation of a working group to study areas of cooperation in the transfer of arms technology, Mir envisioned a U.S. effort to gain control of Brazil's military industry. The United States did not so much worry about competition from Brazil as much as the foreign-policy implications of Brazilian exports. Much of Brazil's exports went to critical Third World areas--Africa and the Middle East--where the United States had considerable interests.

In 1984, Secretary of State George Shultz returned to Brasília to evaluate the results of the working groups deliberations. During his visit, a

memorandum of understanding was signed on February 6 establishing a formal agreement between the two countries for the transfer of military technology. The document only dealt with generalities and did not specify any areas for future cooperation. This omission reflected Brazil's resistance to pressure from the United States to include a clause prohibiting the export of Brazilian weapons (built with U.S. technology) to countries on Washington's "black list" (such as Libya). At one point during the negotiations, rumors circulated about possible restrictions, but military officials from Brazil attributed the erroneous information to the powerful European arms industry lobby, fearful of Brazil's potential threat to their arms business.⁵²

The closest the memorandum came to this type of restriction was in Clause 4 of Article 1, which established that any technical information transferred through the agreement could only be to third parties following written arrangement between the two signatories.⁵³ This clause in itself constituted a potential for future U.S. interference in licensing arrangements that Brazil might establish with arms recipients. But Brazilian arms industry officials viewed this clause much more favorably than an outright restriction on commercial relations.⁵⁴ There is no denying that the United States did worry about Brazil's arms exports. During the same week that the agreement was signed, a ship docked in Brazil and loaded 90 armored vehicles from Engesa and an undisclosed quantity of rifles from Imbel and headed to two socialist African countries: Mozambique and Zimbabwe. Egypt had just bought 120 Tucanos from Embraer.⁵⁵

What is curious about this memorandum is not the potential for U.S. interference, but that Brazil signed it in the first place. We do not have to travel very far back in history to see Brazil forcefully asserting its political independence from the United States in 1977. U.S.-Brazilian relations were still at their lowest point in the 1980s, as evidenced by the way the U.S. Secretary of State was treated at his departure from Brazil. The secretary-general of Itamaraty, Baena Soares, was the highest governmental official representing Brazil at the ceremony.⁵⁶

While Reagan's Cold War orientation helps explain changes in U.S. arms transfers policy, why did Brazil change its independent policy position and seek access--at least, on paper--to U.S. technology? An explanation is to be found in Brazil's eagerness to import sophisticated arms technology from any source so as to improve its position in the international market. During the ceremony marking the signing of the agreement, Brazil's Foreign Relations Minister Saraiva Guerreiro argued that the two countries acknowledged the seriousness of the global economic crisis, as well as its highly harmful effects on developing countries.⁵⁷ Brazilian business leaders were delighted with the agreement, despite the fact that the United States could technically put pressure on Brazil for the export of arms manufactured with U.S. technology--a restriction on Brazil's autonomy.⁵⁸ Because the Third World market was drying up anyway, these restrictions would have little impact if Brazil were to penetrate the European market with sophisticated weapons.

The conflict between commercial (infusion of new technology) and strategic (autonomy) requirements was evident in the years following the signing of the agreement, as neither side showed great enthusiasm for applying the memorandum. The lack of Brazilian enthusiasm was first noticed even before the negotiations started in 1982, because the two countries' agendas differed significantly. Renato Dagnino finds at least three obstacles for full implementation of the 1984 military agreement.⁵⁹ First, the United States wanted to make the availability of the military technology conditional on the relaxation by Brazil of its market reserve policy for informatics--a policy in place since the late 1970s. Brazil, in turn, saw the market-reserve policy for informatics as a form of combating "information imperialism."⁶⁰ Despite U.S. pressure, the military government crystallized its computer policy position with the enactment of an Informatics Law on October 29, 1984, the same year it signed the memorandum of understanding. The new informatics law reserved the domestic market for mini- and micro-computers to national companies for eight years. Foreign-owned companies were allowed to continue producing large mainframe computers. The companies, however, were forced to relinquish their share in the mini and micro areas, many of them suffering considerable financial loss.⁶¹

The second obstacle, which was promptly taken out by Brazil from the memorandum negotiations agenda, was the U.S. insistence that Brazil review its export subsidies policy (e.g., tax rebates for exporting companies), which the United States viewed as distorting the fair flow of commodities in

the trade system. This obstacle reflected the U.S. growing impatience with what was characterized as Brazil's protectionist policies.

The third obstacle became the main disincentive for Brazil to fully embrace the memorandum. The United States wanted Brazil to issue an end-use certificate for the exported armaments, which would mean, in effect, that the United States would be able to monitor the destination of Brazilian arms exports. Countries like Libya and Iraq, major importers of Brazilian weapons, would come under direct scrutiny from U.S. policy-makers. From a practical standpoint, such requirements would constitute a major infringement on Brazil's sovereignty.

The Aftermath of the 1984 Military Agreement

Although this study was originally intended to cover only the period up to the end of the military regime and the signing of the 1984 memorandum, it is important to offer some observations on the second half of the 1980s. Those years offer plenty of evidence of the contradictions in Brazil's national-security policy since the 1970s, when the arms industry aggressively pursued the export business. It was during the period from 1985 to 1990 that the industry faced a violent crisis, to the point of complete stagnation and potential bankruptcy.

After President José Sarney took office in 1985, the Brazilian military announced that it would embark on a costly new modernization program, with a clearly defined role as a defender of territorial integrity and

democracy.⁶² The program, known as "Força Terrestre 1990" (FT-90) entailed an annual outlay of about \$100 million, which would be used to purchase missile launchers, helicopters, and cannons, among other equipment, and the introduction of new training courses for officers. The program, according to army sources, reflected the development of a new strategy to defend the long western and northern borders with Bolivia, Peru, Colombia, and Venezuela. The Brazilian officers expressed concern about their neighbors' guerrilla wars spilling over into Brazilian territory.⁶³ The land-force program, as expected, was to draw its weapons mostly from domestic sources, such as the Cascavel and Urutu armored vehicles.⁶⁴ The announcement certainly was good news to local producers, in light of the shrinking international market.

In addition to the program, the military also created a military zone in the western Amazon, reflecting the new emphasis on external security. The army gained support of the government through the ministry of planning, which had to trim the allocations of other ministries, such as interior, health and communications. The strengthening of the northern borders became, in a sense, the new "political diversion" of a discredited military. The plan, authored by the National Security Council (CSN), was military in nature. General Rubens Bayma Denys, the CSN secretary, announced at the time that Brazil had been forced to take action because of "the possibility of border conflicts between some of the neighbouring countries, added to the current juncture in Caribbean nations."⁶⁵

Aside from its preoccupation with the northern borders, the army also announced that it would use the modernization funds for the expansion and relocation of the Centro Tecnológico do Exército (CTEX) near the southern tip of Rio de Janeiro. The center for the development of military technology would encourage the establishment of private arms industries around CTEX so as to form one of the "largest research complexes for the development and expansion of technology in Latin America."⁶⁶

In April 1986, after the FT-90 program was announced, Fred Iklé, U.S. deputy secretary of defense, went to Brazil requesting an immediate application of the 1984 memorandum of understanding. The United States intended to take advantage of the Brazilian modernization program through agreements between U.S. companies and local industry in the development of the new CTEX complex in Rio. The possible application of the memorandum, however, drew criticism from members of the military because it would invite U.S. influence in the direction of Brazil's arms industry. General Hermano Lomba Santoro, for instance, criticized the Brazilian army's position as too liberal: "There is no reserva de mercado for military technology. Any [foreign] arms producer can set itself up in Brazil if it finds a Brazilian partner and brings in its technology."⁶⁷ The Brazilian government responded coolly to the U.S. proposal, given the fact that CTEX was created exactly as a result of Brazil's effort to become technologically independent from foreign suppliers. Besides, the use of U.S. technology

would, as argued before, mean the potential influence of the United States over Brazil's future arms exports.

In August of the same year, the Army Minister Leonidas Pires Gonçalves announced that the army would receive under FT-90 \$250 million annually until the year 2015, mainly for the purchase of arms and the construction of new barracks.⁶⁸ Also announced at that time was the purchase of 236 Cascavel armored vehicles to replace the U.S.-made M-80 armored cars and 100 helicopters made by Helibrás in the army's effort to build its rapid deployment force. Helibrás welcomed the orders, given its disappointing sales in the international market.

Despite the military's effort to increase its purchases of locally produced weapons, the arms industry could not recover from the slowdown in Third World demand. The winding down of the Iran-Iraq War had reduced the size of the Third World market for the types of weapons Brazil produced. Even before the Iraqi invasion of Kuwait in August 1990, Brazil had suspended arms shipments to the Hussein regime, not because of strategic considerations--the balance of power in the Middle East--but because Baghdad had not paid its old bills. Iraq owed at that time \$40 million to Avibrás for Astro-II missile launchers purchased in 1987, and \$90 million to Engesa. Lack of payment to these companies led to their financial collapse in 1989, after which they sought protection from their creditors.

Stiffer competition in the international arms market strained the position of many Brazilian arms producers. Industry sources say that

Avibras' billing dropped from \$350 million in 1987 to \$10 million in 1989. As a result, the company has laid off all but 400 of its 6,000 employees.⁶⁹ Embrear, one of the most successful companies in the arms industry, is struggling with a \$450-million debt.⁷⁰ Engesa's main armored vehicles plant in São José dos Campos has been closed down since March 1990 because of lack of orders. The same goes for the Osório tank, Engesa's main "invention," whose production line is temporarily shut down.⁷¹

Concluding Remarks: Facing the Paradox

Events in the 1980s leading up to the Gulf War in 1991 have brought home some of the basic fallacies of the earlier programs of rearmament during the Brazilian military regime (1964-1985). Heavy reliance on the external sector only shifted the character of dependence. Instead of depending on the good graces of a single supplier--the United States, Brazil became dependent on the vitality of the international arms market. With autonomy from U.S. supplies guaranteed, the primacy of arms exports became an end in itself. So pervasive was the arms export requirement that the new civilian government never questioned its national-security logic.

As long as the international arms market favored low-technology weapons, Brazil fared well. As the Third World market began to shrink in the 1980s, Brazil had the option of moving up to the production of arms with higher technological content. Such an "option" encountered at least two sources of constraints, one economic and the other political. First, the local

industry could not generate or even absorb high technology fast enough to improve its competitive position in the international market. That is why multinational corporations became so important in taking over the operations of the local industry, because they not only brought in much needed investment capital, but also expertise. This realization leads to the second source of constraint, which is political in nature: Establishing technology-transfer arrangements entails the acceptance of potential "interference" by foreign suppliers. Right now the Brazilian government is supposedly negotiating the sale of Engesa--a private company--to a British group in association with Imbel, Brazil's state company which produces explosives and rifles.⁷² The negotiations came after the conclusion that the government cannot let Engesa go under because it constitutes a national-security asset.

The informatics case, as a technology-intensive industry, provides an interesting parallel with the more traditional arms industry--tanks, armored vehicles, and combat aircraft--because the government used opposite strategies in solving the problem of struggling market competitiveness. Because the computer industry was at an infant stage with no immediate export potential, it required protection as well as government support in the development of domestic technological capability. The 1984 market-reserve law set the stage for such development, which had the domestic market as its main target.

U.S. companies were particularly affected by the new arrangements. Philco, a subsidiary of Ford Motor Company involved in consumer electronics, closed a plant in Brazil that produced integrated circuits (using silicon chips), while Sperry Corp. sold its subsidiary. American companies that remained in Brazil assembling computers used considerable lobbying efforts in order to obtain permission to import capital goods and components. Approval from the Brazilian government, however, often involved export requirements, such as the granting in August 1980 of permission for IBM to assemble its 4331 MG2 model with some imported components. Other companies (i.e., Data General) have had little success in pressuring the government concerning non-tariff import barriers.⁷³ The arms industry, however, was already an active participant in the international market. It depended on the rapid infusion of sophisticated technology, which the local market was not able to supply. Therefore, a technology-transfer agreement with the United States was welcomed, despite the same dependence concerns which led to the informatics policy in the first place.

The following proposition arises from the parallel between the informatics policy and the 1984 memorandum: a deciding variable in national security strategy lies in the urgency of technology inflow requirements. The size of the domestic market for weapons remained small even during times in which the government had announced a rearmament policy (as in 1986). Faced with the need to export, the arms industry came to depend heavily on new technology in order to retain and expand its market

share. Unable to develop its own technology fast enough, the industry had to rely on foreign sources.

Renato Dagnino extends this contradiction to the very nature of ESG's "security and development" program.⁷⁴ The development program counted on the role of multinational capital, while it at the same time promoted a national-security policy of technological autonomy. Dagnino, however, gives the impression that the contradiction is a typical "defect" in Brazilian policy. Nevertheless, as we have seen in previous chapters, the international arms market itself pushes the local arms industry toward these seemingly contradictory positions because the strategic and the commercial requirements are inherently in conflict. Therefore, arms industry officials from both American and Brazilian companies have revealed the same concern for competitiveness, which pushes them to rely on the latest technology regardless of national source. In other words, there is a wider structural force leading them toward these strategic "choices" than some have been willing to acknowledge. When asked about the "national-security" threat of dependence on foreign technology, a Brazilian arms industry official shrugged his shoulders, indicating that the industry's primary concern is in developing an item that is competitive in the international market.⁷⁵ This economic argument significantly differs from the strategic imperative as proposed by national-security policy-makers.

What is fair to point out, however, is that Brazil, and other countries like it, is more vulnerable to these structural "pushes" because of its weak

technological position in the international market. This vulnerability can be traced, again, to the country's past position in the international division of labor, which emphasized Brazil's comparative advantage in the export of primary products. The new international division of labor, as argued in Chapter II, did much to open the country to new technology brought in by multinational capital. But the hopes of an autonomous technological capability quickly faded away once Brazil's arms industry could not survive in the international market without the infusion of foreign technology.

The flow of foreign technology into an area deemed of significance for national-security reasons challenges our perception of the real meaning of "national security" as an objective term in policy-making. The paradox of national insecurity as presented here is most evident in the ambiguity it creates in Brazil's military policy. The competitiveness of the arms market has led the country to seek outside allies, while at the same time the fear of external dependence has driven its policy-makers to emphasize autonomy. There is a positive outcome to the paradox, however, because it promotes cooperation, whether it may mean substantive reformulation of policy or not. An example of this pattern of cooperation is the Brazil-Argentina program to build and market the CBA-123 Vector--a 19-seat, twin-turboprop aircraft designed to serve the regional airlines in the 1990s.⁷⁶

In the U.S.-Brazilian case, as this case study has shown, the gap has been so deep between the two sides that the forces of attraction brought on by the market--embedded in the dynamic of technology transfers--cannot overcome

the mutual suspicion. The end result has been a virtual stalemate in bilateral relations. Some analysts have seen this conflict as inevitable, given the asymmetric interdependence that characterize U.S.-Brazilian relations. David Fleischer argues that Brazil grew much more than the United States wanted it to, setting a "bad" (rebellious) precedent for other newly industrialized countries of the Third World.⁷⁷ The United States also has contributed to the stalemate by its own ambiguous military policy toward Brazil. As Katz, for instance, points out, the United States has proposed "several military-industrial cooperative programs with Brazil, but so far nothing has come from the U.S.-Brazilian agreements, especially because the United States has restricted some licenses that were pending due to Brazil's arms sales to Iraq and Libya."⁷⁸ On the Brazilian side, cooperative programs are discouraged--such as the U.S. offer to help on the CTEX expansion in Rio--because of the fear that the United States might use this opportunity to entrap the arms industry. Besides, there is a deep-seated perception, as argued in this chapter, that the real motive in U.S. policy is to hold down Brazil's development.

Brazil's own technological limitation, amid urgent needs to upgrade the industrial sector, has softened the confrontational rhetoric that was heard in the late 1970s, although privately, officials continue to decry U.S. pressure against Brazil's attainment of strategic technology.⁷⁹ The softening in the Brazilian position has allowed the United States to take the initiative in bringing Brazil closer to the U.S. strategic agenda. In December 1990, as

President Bush visited Brazil, the United States invited Brasília to join the Missile Technology Control Regime (MTCR), which now counted 14 members, up from the original 7. The invitation came after President Collor publicly renounced Brazil's intention to build a nuclear bomb. Brazil announced that it would seriously study the possibility of joining MTCR.⁸⁰ Joining the regime would represent another "interference," but it would also mean a more positive disposition from Washington to allow U.S. technology to flow to Brazil's military industry. During the same period that President Bush made the invitation, the U.S. Senate approved a bill that would bar the sale of supercomputer technology to Embraer because of the country's alleged involvement in the Iraqi weapons program.

In light of such a contradictory position for Brazil, what are national security policy-makers to do to escape the paradox of national insecurity as expressed in the arms market? Can policy-makers address the domestic developmental needs while at the same time securing political independence? Further, do the two have to be necessarily incompatible in today's economically interdependent world? The next chapter attempts to illustrate some of the alternatives by comparing Brazil's experience to other Third World middle powers.

Notes

1. Eduardo Augusto Guimarães, José Tavares de Araújo Jr., and Fábio Erber, A política científica e tecnológica (Rio de Janeiro: Jorge Zahar Editor, 1985), 25.

2. For a good review of Brazil's technology policy in this century, see Brasil, Ministério da Indústria e do Comércio, Secretaria de Tecnologia Industrial, Política tecnológica brasileira; desempenho e articulação (Brasília, 1987).

3. See Shozo Motoyama, "Ciência e tecnologia e a história da dependência do Brasil." Revista Brasileira de Tecnologia 15 (May-June 1984): 5-17.

4. Simão Mathias, "Evolução da pesquisa científica no Brasil," Interciencia 7 (November-December 1982): 340.

5. Francisco Antônio Cavalcanti da Silva, Tecnologia e dependência: o caso do Brasil (Fortaleza and Rio de Janeiro: Edições UFC/Civilização Brasileira, 1980), 37.

6. Ibid., 38.

7. Amaury Fassy, De Castelo a Sarney (Brasília: Thesaurus, 1987).

8. Ibid., 87.

9. Maria Regina Rinto de Gusmão, comp., Comportamento dos institutos de pesquisa tecnológica industrial no Brasil (São Paulo: IPT, 1987), 18.

10. We should not overlook the fact that the changes brought about by ISI did lead to the development of a scientific infrastructure. In Motoyama, "Ciência e tecnologia," the author, in fact, considers this period as the institutionalization of science in Brazil.

11. Mathias, "Evolução da pesquisa," 342.

12. Motoyama, "Ciência e tecnologia," 12.

13. Guimarães et al., A política científica e tecnológica, 42-3.

14. Fassy, De Castelo a Sarney, 90.

15. Ibid., 92.

16. Guimarães et al., A política científica e tecnológica, 50.

17. For excellent treatments of the structure of the Brazilian computer industry, see Claudio Frischtak, "Brazil," in National Policies for Developing

High Technology Industries: International Comparisons, eds. Francis W. Rushing and Carole Ganz Brown (Boulder, Colo.: Westview Press, 1986), 31-69; and Paulo Bastos Tigre, Technology and Competition in the Brazilian Computer Industry (New York: St. Martin's Press, 1983).

18. Ravi Ramamurti, State-Owned Enterprises in High Technology Industries (Westport, Conn.: Praeger Publishers, 1987), 220; Peter Evans, "State, Capital, and the Transformation of Dependence: The Brazilian Computer Case," World Development 14 (July 1986): 793.

19. Motoyama, "Ciência e tecnologia."

20. Aaron L. Friedberg, "Is the United States Capable of Acting Strategically?" The Washington Quarterly 14 (Winter 1991): 7.

21. Motoyama, "Ciência e tecnologia," 15.

22. Gusmão, Comportamento dos institutos, 22.

23. In Brazil, only two in ten teen-agers (ages 15-19) are attending to high school, whereas in South Korea, the proportion is of nine to ten. See José Serra, "Existe uma saída," Veja, 1 Aug. 1990, 64.

24. Renato Peixoto Dagnino, "A indústria de armamentos brasileira: uma tentativa de avaliação" (Ph.D. diss., Universidade de Campinas, Brazil, 1989), 454.

25. Stan Lehman, "Brazilian Arms Industry Sees Upswing," The Los Angeles Times, 29 Sept. 1990, p. D2.

26. Fernando Henrique Cardoso and Enzo Falleto, Dependency and Development in Latin America, trans. Marjory Mattingly Urquidí (Berkeley and Los Angeles: University of California Press, 1979). See Chapter I of this dissertation for a more complete review of Cardoso and Falleto's perspective on Latin American trade politics in the 19th century.

27. Dagnino, "A indústria de armamentos brasileira."

28. Wanderley Anciães, "Trinta anos do CNPq: política científica e tecnológica," Interciencia 7 (March-April 1982): 101.

29. Mauro Fernando Maria Arruda, "O Brasil face à nova arrancada tecnológica," Revista Brasileira de Tecnologia 15 (Sept.-Oct. 1984): 30.

30. A. D. (Andy) Wing, interview with author, Marietta, Ga., 10 Nov. 1990. Mr. Wing works in Lockheed Aeronautical Systems Company, a division of Lockheed Corporation.

31. "Estagnação Tecnológica e a Perda do Futuro," Problemas Brasileiros 24 (March-April 1987): 47.

32. Clóvis Brigagão, "O Mercado de Segurança," in Militares: Pensamento e Ação Política, ed. Eliézer Rizzo de Oliveira (Campinas, SP: Papirus, 1987), 111.

33. Guimarães et al., A política científica e tecnológica, 33.

34. Luís Mir, "As armas do superávit," Senhor, 9 Feb. 1983, 40.

35. Ibid.

36. Renato Dagnino made this argument at a lecture (University of Campinas, Brazil) on March 15, 1991.

37. Text of presentation printed in Celso Juarez de Lacerda, ed., Ciência e Tecnologia: Um Desafio Permanente (Rio de Janeiro: Associação dos Diplomados da Escola Superior de Guerra, 1984), 65-76. FINEP was created in 1967 to work as the executive secretary of the Fundo Nacional de Desenvolvimento Científico e Tecnológico (FNDCT).

38. Text of presentation printed in Lacerda, Ciência e Tecnologia, 152-61.

39. Dagnino, "A indústria de armamentos brasileira," 186. The United States set aside its commitments under the Rio Treaty, while reaffirming its close ties to NATO allies.

40. Sonia de Camargo and José María Vásquez Ocampo, Autoritarismo e Democracia na Argentina e Brasil (São Paulo: Editora Convívio, 1988), 176.

41. Camargo and Ocampo, Autoritarismo e Democracia, 175.

42. Gerson Moura and Paulo Kramer, "Brasil-EUA: as razões das diferenças," in Associação Nacional de Pós-graduação e Pesquisa em Ciências Sociais, Ciências sociais hoje, 1987 (São Paulo: Vértice, Editora Revista dos Tribunais, 1987), 99.

43. See Michael R. Gordon, "Competition with the Soviet Union Drives Reagan's Arms Sales Policy," National Journal 16 May 1981, 868-73; Juan de Onis, "U.S. Improving Ties to Latin Rightists," The New York Times, 8

March 1981, p. 4; Andrew J. Pierre, "Arms Sales: the New Diplomacy," Foreign Affairs 60 (Winter 1981): 276.

44. Text of the address printed in Department of State Bulletin 81 (Nov. 1981): 87-9.

45. U.S. Congress, House Committee on Foreign Relations, United States-Brazilian Relations: Hearings before the Subcommittee on Inter-American Affairs, 97th Cong., 2nd sess., 14 July 1982.

46. From Enders' prepared statement presented at the hearing.

47. Ibid.

48. Paulo Kramer, "As relações militares Brasil-Estados Unidos," Política e Estratégia 4 (Jan.-March 1986): 49; Moura and Kramer, "Brasil-EUA," 100; Camargo and Ocampo, Autoritarismo e Democracia, 172.

49. Camargo and Ocampo, Autoritarismo e Democracia.

50. From Crimmins' prepared statement presented at the hearing. The Brazilian position was reiterated by a Brazilian Air Force major, member of the CTA, during an interview in São José dos Campos, Brazil, on March 14, 1991. Due to the sensitive nature of the topic in U.S.-Brazilian military relations, the officer's name is withheld.

51. Mir, "As armas do superávit."

52. Roberto Godoy, "Restrições não passam de 'fantasia,'" O Estado de S. Paulo, 5 Feb. 1984, p. 6.

53. For a complete text of the memorandum, see "Memorando militar já em vigor," O Estado de S. Paulo, 7 Feb. 1984, p. 7.

54. Roberto Godoy, "País sabe contornar restrições," O Estado de S. Paulo, 7 Feb. 1984, p. 7.

55. Godoy, "Restrições não passam."

56. "Na despedida de Shultz, só o embaixador," O Estado de S. Paulo, 8 Feb. 1984, p. 6.

57. "Secretário reconhece progresso," O Estado de S. Paulo, 7 Feb. 1984, p. 4.

58. Godoy, "País sabe contornar."

59. Dagnino, "A indústria de armamentos brasileira," 177-8.

60. As Anne Piorkowski argues of the computer business, countries such as Brazil "suspect that foreign countries may withhold technology as a political maneuver or may restrict their technology exportation for purely domestic reasons." See Piorkowski, "Brazilian Computer Import Restrictions: Technological Independence and Commercial Reality," Law and Policy in International Business 17 (Summer 1985): 623.

61. Piorkowski, "Brazilian Computer Import," 620. The computer policy gained institutional strength through the implementation of the First Basic Plan for Scientific and Technological Development (1973-74). The plan included a call for the development of a mini-computer industry through the cooperation of the government, a local company and a foreign manufacturer. As a result, the government (through its holding company, Digibrás) joined hands with a local supplier of electrical equipment for the military (E. E. Equipamentos Eletrônicos) and a small British MNC (Ferranti), which had supplied electronic equipment in ships acquired by the Navy. This association brought about the creation of a national firm, Computadores e Sistemas Brasileiros (COBRA) in July 1974 for the production of mini-computers.

62. Latin American Regional Reports Brazil, 3 Jan. 1986, 5; publication hereafter referred to as LARRB.

63. Ibid.

64. The program also included the purchase from British sources of an anti-aircraft early warning system to protect the federal capital of Brasília against air raids. Although the system would be British, the anti-aircraft artillery would be the Astro system made by Avibrás.

65. LARRB, 8 Jan. 1986, 3.

66. LARRB, 14 March 1986, 5. CTEX was originally set up in 1979 under the command of the Instituto Militar de Engenharia and the Instituto de Pesquisa e Desenvolvimento.

67. Ibid.

68. LARRB, 14 Aug. 1986, 5.

69. William R. Long, "Saudis a Fading Target for Brazil Arms Industry," The Los Angeles Times, 30 Sept. 1990, p. A7.

70. "O jogo pesado das armas," Veja, 13 March 1991, 62.

71. "Em segredo," Veja, 6 March 1991, 64.

72. Ibid.

73. Tigre, Technology and Competition, 130-3.

74. Dagnino, "A indústria de armamentos brasileira," 149.

75. Interview with an aircraft industry official, who wishes to remain unidentified. São José dos Campos, Brazil, March 14, 1991.

76. This researcher witnessed, for instance, the historic excitement with which engineers from both countries prepared a second prototype of the CBA-123 for testing at Embrear's plant in São José dos Campos, Brazil, on March 14, 1991. Such programs certainly bring experts together in an exchange of experience which contribute to a close relationship at the macro-political level. In this case, old rivals are able to work together toward the development of a sophisticated aircraft.

77. As noted in "Programa de verão," Veja, 3 Aug. 1988, 52.

78. James Everett Katz, "The United States: U.S. Arms Technology Transfer Policy," in The Implications of Third World Military Industrialization, ed. James Everett Katz (Lexington, Mass.: D.C. Heath and Company, 1986), 9.

79. Interview with an aircraft industry official, who wishes to remain unidentified. São José dos Campos, Brazil, March 14, 1991.

80. Paulo Sotero, "Brasil estudará adesão a acordo sobre mísseis," O Estado de S. Paulo, 9 March 1991, p. 12.

CHAPTER 6

CONCLUSION: POWER AND NATIONAL SECURITY POLICY-MAKING

The theoretical focus of this study rests on the linkage between power politics (agency) and market relations at the global level (structure). Power politics is expressed at the strategic level with nations pursuing their "national interests," such as autonomy and political independence. The constant jockeying for position in the international system underlines the anarchic character of international relations, with each actor seeking either to enhance or to secure its position.

In this study, the global market constitutes the environment in which these actors operate. Shifts in market relations help explain changes in conceptions of national security, as state actors respond to new challenges in the international economic system. Nonstate actors play a critical role in defining the state response to market shifts. This study uses the defense industry in both developed and developing countries as an important sector defining a country's "national security" interests, separate from the political requirements of power politics.

U.S.-Brazilian military relations since World War II are analyzed as the basis for understanding agency-structure interrelations in the national-security arena. Three distinct phases are noted. First, under the

politics of "uneven attraction" (1940s-1950s), the United States as the new superpower used the emerging post-war order to shape Brazil's national security perspective. The agency-structure framework shows how the United States, through the deployment of its military and economic resources, had the power to manipulate structural conditions (e.g., Rio Treaty, Military Assistance Program) so as to effectively monopolize Brazil's arms procurement policy. Brazil, in turn, subordinated its developmental priorities to the U.S. Cold War exigencies, as embodied in the 1952 military assistance agreement. In the disagreement over priorities (Brazil's emphasis on local development as opposed to U.S. hemispheric defense initiative), the U.S. Cold War focus prevailed due to the country's overwhelming power.

Brazilian nationalism was a casualty in this disagreement because it was said to be Communist inspired, and thus was to be suppressed. But nationalism returned in the second phase of U.S.-Brazilian relations (1960s-1970s) as the old politics of "uneven attraction" could no longer stand the significant shifts in the international market. Brazil's power leverage vis-à-vis the United States was enhanced with structural changes (European recovery and the new international division of labor--internationalization of capital and production) that upset the balance of economic power in the world. The emergence of newly industrialized countries (NICs) in the global market signaled the significant changes taking place. The development of an indigenous arms industry became a viable national-security policy alternative, thus leading to the eventual unilateral cancellation by Brazil of

the 1952 agreement. While the market in the first phase helped U.S. domination, in the second phase the market ushered in the process of liberation for Brazil.

Just as in the first phase, the two countries found themselves at odds over national-security policy-making. While Brazil increasingly emphasized its international role as an emerging power, the United States worried about local subversion, particularly in light of the Cuban Revolution of 1959. As Chapter 4 shows, there was a complete reversal of national security perspectives in this second phase. The agency-structure framework helps explain the different dynamics working during this phase. While during the first phase the overwhelming power of the United States defined the policy priorities of a weaker partner, structural changes helped Brazil to take the initiative and define its own national security needs, independent of the United States.

Market shifts provided the "enabling environment" from which Brazil could build its "great power" project. Brazil's bargaining power was enhanced, once a "buyer's" market emerged, offering aspiring Third World arms producers like Brazil alternative technology suppliers. At the same time, the market constrained U.S. ability to monopolize Brazil's procurement policy. This is a qualitative shift in power relations that many analysts fail to consider in their assessment of U.S.-Brazilian military relations.

Liberation proved elusive, once Brazil realized that deepening its integration into the international arms market entailed new sources of

insecurity. As a recipient, technology transfers came to dominate the national-security agenda, closing the gap between market demand for sophisticated weapons and Brazil's own infant research and development capability. The ability of Brazilian companies to tap sophisticated technology became a contentious source of conflict between the two countries in the third phase (1980-1985). After having mastered basic technology, Brazil's move toward more sophisticated technology (particularly in the area of ballistic missiles) was openly criticized by the United States.

As a supplier, Brazil faced drastic changes in the market which adversely affected its competitiveness. The collapse of the Third World market in the 1980s further pushed Brazil away from basic technology (which made more affordable weapons to Third World consumers) and toward exploring more sophisticated weapons systems (such as the AMX program with Italian companies). However, Brazil's own economic crisis constrained the government's ability to finance indigenous research and development programs. The lack of foreign markets, as well as weak technological development at home, is driving local companies toward a closer association with foreign capital and technology, as evidenced in the possible sale of Engesa to British investors. This reliance of foreign capital and technology, in turn, is bringing Brazil closer to market processes beyond its control, which negates its first policy objective of creating security by moving away from too much reliance on the United States for weapons supplies.

The paradox is clear once we realize that Brazil embraced the market as an alternative to dependence on the United States arms supplies. Both the market and the United States are proving to be constraining partners. Military industrialization was originally conceptualized as a national-security prerogative in the process of liberation. Yet, the same market that in the second phase helped Brazil to rely less on the United States eventually forced it back to the negotiating table. We see this paradoxical process in the signing of the 1984 memorandum of understanding with the United States: It was a desperate effort by Brazil to gain access to modern defense technology, while at the same time decrying the political dependence technology transfers may create.

The paradox of national insecurity as observed in this third phase points to the present complexity in the political economy of national security. Unlike the clear delineation of power relations and market leverage in the first two phases of U.S.-Brazilian relations, in the third phase, an elusive market is the one that is defining national security prerogatives. Both Brazil and the United States are attempting to control the market so as to impose their own agenda, but each finds itself drawn into the exigencies of the market. While this study has focused on the Brazilian experience, there is a growing need to assess the U.S. power position as an arms-maker, given the internationalization of arms production. In light of the collapse of the Soviet Union as a superpower, there will be growing pressure for the commercialization of U.S. arms to offset declining defense budgets. This

pressure would only invite the same paradox of national insecurity that Third World middle powers have experienced.

The position of Third World middle powers in the paradox of national insecurity is particularly precarious, because the roles of recipients and suppliers are intimately related through the political economy of technology transfers. In order to escape the paradox, they have to reduce their need of foreign technology, an achievement that requires a fundamental revolution in its own technological base. Since World War II, the leading actor in Third World "indigenous" technological development has been foreign capital, which creates an interconnection between agency (creation of a domestic technological base) and structure (internationalization of capital and production). In order to escape the paradox, a nation would have to implement the impossible task of separating these two processes.

Technology and Power Politics: Toward a New Research Agenda

The new phase in U.S.-Brazilian relations (with the importance of technology transfers) points to the need of reconceptualizing national security. States are increasingly measuring national interests not only in relation to other states (the traditional conception of power politics) but to their own position in an elusive international market structure. For countries that command a leading edge in sophisticated technology, the national-security challenge remains to monopolize this technology, which may serve not only a military purpose but a commercial one, as well. The

U.S. technological superiority over competing powers has been both a source of security for the country and a cause for preoccupation (how to keep this technology from flowing to potential enemies).

For NICs, the national-security challenge constitutes the survival of its arms industries in an environment that sets a whirlwind pace for technological development. The real challenge for NICs is most acute in keeping technology imports from establishing untenable political linkages. In the Brazilian case, the same international structure that enabled the development of an indigenous industry now requires linkages (the 1984 memorandum) that dilute the country's resolve to remain politically independent from suppliers.

The paradox unfolds at this strategic (agency-driven) level: the attempt by nations to secure their preeminent or ascending position in the international trade system without the political consequences of technology diffusion and technological dependence. Deepening their integration to the trade system provides a useful vehicle for technology transfers (the NICs' agenda) or for the opening of new markets (the agenda of both developed and developing countries). Integration, however, is a costly proposition in the national-security arena, if it means stripping away so-called "national interests." Invariably, states attempt to manipulate the market so as to extract benefits. The U.S. sponsorship of the 1987 Missile Technology Control Regime was motivated not only by military concerns (stopping nuclear

proliferation) but also by commercial protectionism, because the satellite-launching business was (and is) expanding at a fast pace.

Such is the new political economy of national security. Each state attempts to control the international market in order to extract monopoly rents. Yet, by chasing an "invisible hand" down dark alleys, states become ever more intertwined in the vagaries of the market. That is not to say that traditional conceptions of international security (e.g., the military threat) have fallen to the wayside. In 1990, when the United States refused to sell a supercomputer to Embraer, Brazil's nuclear program was uppermost in U.S. policymakers' minds. What this study has shown, however, is that commercial considerations are invading the international security agenda at a rapid pace, and in the process, bridging the gap between "high" and "low" politics, as discussed in Chapter 1.

This invasion is most noticeable in the case of NICs because their military industrialization is closely connected to their ability to commercialize their arms production at the global level. Changes in the international market may have a devastating impact on the local industry, thus constituting a new source of insecurity. What is novel in NICs experience is that a traditional national security arena (arms production) has become closely associated with wider commercial considerations (competing in the world market and earning foreign exchange).

Confronting Hidden Agendas

In order to build a new research agenda for the new political economy of national security, we should dispel several myths that continue to divide the two camps (developed and developing). First, we should dispel the general myth that only great powers have genuine "national security" interests. This myth is particularly pervasive in studies that portray Third World arms industries as the product of "dubious" policies. "Despite apparent diseconomies and dubious security advantages," Janne Nolan writes, "they [Third World countries] consider the ability to manufacture weapons a sine qua non of national sovereignty and a means of capturing technological resources to achieve overall modernization and international status."¹ Nolan recognizes the sovereignty aspect of indigenous arms production for Third World countries, but somehow the Third World states become mere appendages of great-power "real" national-security interests. Obviously, the proliferation of missile technology to belligerent regimes is a cause of concern for the entire international community. But then, so was Germany's missile program during World War II.

Another myth that should be dispelled as we build a new conception of the political economy of national security is the notion that somehow only Third World countries are spending "scarce" resources on military industrialization. Third World defense expenditures are quite often portrayed as a wasteful pursuit of prestige, much like a low-income resident in an affluent neighborhood would seek to purchase the right consumer

goods in a vain attempt to increase status. The argument we often hear is that "These efforts obviously divert funds from other national priorities."² Again, justification of the unwise diversion of scarce resources toward politically expedient strategies should be predicated on specific cases, rather than on a blank Third World category--as if the First World defense funds come from abundant wells. After all, President Reagan commanded the largest peace-time military buildup in U.S. history at a time when taxes were being cut and social programs slashed. There is a patronizing quality to the argument that funds used for military industrialization in the Third World would be better spent on a general criteria labeled as "development."

Ironically, this argument quite often comes from the same U.S. congressional offices that fight for the survival of defense contractors in their home districts--all in the name of jobs and community development. Recently in a speech, Senator Christopher J. Dodd, Democrat of Connecticut, argued that "Our declining defense industrial base and the long-term consequences of decisions made today about the procurement of weapons systems" amount to a "serious problem that threatens to endanger the security of the United States."³ The senator urged during the speech that the Navy give the Seawolf attack submarine contract to the General Dynamics Corporation's Electric Boat division in Groton, Connecticut. Electric Boat publicly argued that its survival depended on the contract, as well as the survival of 22,000 jobs that would be lost with the closing of the plant at Senator Dodd's home state.

A third "Northern" myth that should be dispelled is that the Third World has the monopoly on status-seeking policies. Arms production in the Third World is often ridiculed as an empty search for prestige in the international system.⁴ Prestige is presented as an alternative to real power capability. Therefore, Third World arms production attempts to create the illusion that the producer has joined an exclusive club of weapons supplier. There is an interesting parallel between Brazil's liberation process and French policies in the 1960s under General Charles de Gaulle. Both Brazil and France became members of security blocs orchestrated by the United States after World War II: The Rio Treaty and the North Atlantic Organization Treaty (NATO), respectively. Washington retained to itself the role of ultimate guardian of the Western Hemisphere and Western Europe. Neither Brazil nor France accepted this arrangement. While Brazil rejected the arrangement by developing its own arms industry and cancelling the 1952 military assistance agreement, France left the military wing of NATO and developed its own nuclear program.⁵

The search for prestige is not necessarily groundless if backed by a specific policy objective, as seen in the two cases of Brazil and France. As Michael M. Harrison suggests, "The essential elements of Gaullist security policy have been to restore a certain autonomy of decision in the defense arena, primarily through an independent military system based on a nuclear force, a semiautonomous national defense strategy, and a restrained and carefully controlled set of relations with France's allies."⁶ The Gaullist policy

of national independence and grandeur was seen, in Wolf Mendl's words, "as freeing France from strategic dependence on the United States, as giving France the right to take a leading part in the settlement of Europe, and as restoring to her some of the military pre-eminence [sic] on the Continent, outside Russia, which she had lost after 1870."⁷ Brazil's effort to develop its own arms industry followed a similar strategy, albeit at a lower technological level (particularly in the area of nuclear development). Both cases, however, point to the importance of prestige in asymmetrical relations. For weaker powers, prestige works as a defense mechanism against a great power's attempt to steer the former's security policy. Brazil's prestige in the arms market in the early 1980s did much to force the United States to upgrade its bilateral agenda (to include technology transfers in arms sales agreements) beyond the hemispheric defense issues of the 1950s (the recycling of surplus World War II vintage weapons).

The development of an arms industry in Brazil has had the dual purpose of increasing the country's prestige in the international system and transforming the bilateral relations. The former is certainly a concrete outcome of a policy objective. Nations have taken Brazilian military industrialization seriously, as evidenced in a recent article in The Economist, in which the magazine cautions the United States to continue the development of new military technology because of the increasing importance of Third World arms industries:⁸

The Brazils and the Chinas will gradually develop the capacity to build (and sell) potent weapons of their own. One day America may find itself facing the last generation of its own weapons, which it had sold to its enemy in friendlier times. If it had stopped innovating, the match would then be equal.

Just as it is important to dispel certain myths that we often hear in "Northern" policy circles about the nature of Third World arms production, the "South" has its own myths. First, and foremost, is the myth that military industrialization promotes security. The doctrine of national security which linked development to security has been found extremely lacking in intellectual integrity because it assumed that the international system was static and did not respond to Third World development. Military industrialization in Brazil has invited a negative response from the United States in the form of tighter technology export controls, but it also has deepened Brazil's integration into the international market--a new source of insecurity.

The second myth, which became quite evident during military rule in Brazil, was that military industrialization served the purpose of addressing "national security" as a macro-goal of the state itself. In the Brazilian case, as in other Third World countries, the main push toward military industrialization in the 1960s came as a policy which in reality promoted "regime security." The anti-Soviet agenda of many military governments in Latin America never gained the same level of legitimacy that a direct territorial threat might have, despite the sophisticated national security

doctrines that appeared after World War II invoking nightmarish confrontations between Soviet and Western forces. The "enemy within" agenda was indicative of the Third World's own political developmental struggle at home, rather than the countries' participation in a historic mission of battling foreign invaders. It is not surprising that Brazil's weapons of choice were mostly for counter-insurgency (helicopters, small aircraft, and armored personnel carriers), which became quite attractive for other Third World regimes with similar domestic political threats (e.g., Libya, Iraq, Iran, and Paraguay). The same type of "regime security" proposition may be found in the new political economy of national security since civilian governments have become avid supporters of arms exports because of their commercial value--earning scarce foreign exchange at a time of debt crisis. In so far as economic stability promotes regime security, arms exports become a critical policy tool for civilian governments.

Finally, the third myth relates to the supposed wisdom of commercial pragmatism. "Responsible" pragmatism became such a banner of "new thinking" in Brazil during the 1970s that little attention was paid to the military consequences of sending weapons to the Middle East at a time when tensions were building. When the region exploded--albeit briefly--in the Gulf War, Brazil's prestige was diminished because it held on to its old "new thinking" strategy, still betting on its wisdom.

It has become quite obvious now in the new political economy of national security that Brazil needed an arms transfers policy which could take

into account not only commercial considerations but foreign-policy implications. Today, Brazil is isolated from the politics of the Middle East as a result of its "commercial pragmatism." For a nation that sought great-power status so vigorously in the 1960s and 1970s, the country's behavior in the international system seems at times trivial and devoid of a relevant global agenda. So intent has Brazil been on becoming independent from U.S. military control that little thought has been given to the broader question of Brazil's position in the international system.

Geopolitics and Market Relations

The previous section should serve as a reminder that both developed and developing worlds are facing similar challenges from the meshing of power politics to the demands of an increasingly interdependent world economy. The new political economy of national security has become a function of the interrelation between geopolitics and global market relations. The importance of geopolitics in the decision to build weapons domestically has been a reoccurring feature in any nation, and it directly applies to the Third World experience, as we have seen in Chapter 2.⁹ In the Brazilian case, the main interest of the state was in ridding the country of its dependence on the United States for weapon supplies, as Brazil attempted to achieve great-power status in the international system. The developmental strategy was tied to the international market through Brazil's reliance on foreign capital and technology for the building of a modern military industry. Once

established, its survival has come to depend heavily on the export market and the continuing infusion of sophisticated technology.

Geopolitics serves as a justification for the military to establish indigenous production. Since its independence, India has constantly had to contend with potential enemies in the region (e.g., China and Pakistan). Fear of a boycott by major suppliers at a time of emergency led India to develop one of the Third World's largest military-industrial-research complexes.¹⁰

A nation also has the option of diversifying its sources of supplies, and in the process extract advantageous technology transfer agreements. In Mexico's case, the U.S. geographical proximity has been a constant source of concern for Mexico's policy-makers, particularly because the two nations have often differed on Central American politics. The use of U.S. arms transfers as a way of steering Mexican foreign policy is a constant theme in Mexican national security policy circles. Mexico has followed a strategy of diversification, although it has not achieved the same level of sophistication and scale of production as other more successful Third World arms producers.¹¹

Argentina's "Europa Plan," launched during Orga  a's military government (1966-1970), had as its main objective to explore the European connection through coproduction and licensing arrangements.¹² Argentina is a peculiar case because it also incorporates immediate geopolitical concerns such as territorial integrity (Falklands/Malvinas and border disputes with Chile), while Brazil does not have any immediate territorial threats--despite

recent warnings among the Brazilian military that Brazil needs to move fast to protect its Amazonian territory from being invaded by neighboring gold prospectors, as Chapter 5 discussed.

The higher the national emergency, the more urgent the need is for sophisticated weapons. In the Indian case, for instance, the transfer of U.S., French and Chinese high-technology weapons to Pakistan has placed quite a burden on India's arms production capability, because weapons have been introduced to the theater in such quantum technological leaps that the Indian industry just cannot keep pace.¹³ Alternative foreign sources of ready-made weapons, then, become essential. Reliance on foreign equipment has been particularly critical in the Indian aircraft industry.¹⁴ The U.S. supply of F-16 Falcon fighters to Pakistan led India to seek Soviet MiG-29 aircraft to counterbalance the technological level in the region. The introduction by a superpower of sophisticated weapons into a Third World region ultimately forces recipients to adjust to what Raju G. C. Thomas calls the "art of spare parts diplomacy."¹⁵ Once the weapons system has been purchased, the country is vulnerable to further conditions imposed by the supplier, particularly during conflict, when spare parts are so crucially needed.

Geopolitics also helps justify the amount of consumption by the military of what is produced domestically. Internal consumption, in turn, defines the relationship between the local industry and the international arms market. In cases where there is a clear foreign threat (India's relations with Pakistan), military expenditures keep production lines running and the

local inventories well stocked. The Brazilian case is in clear contrast with India's. They both have a potentially large market, yet the Brazilian military only consumes about 10 percent of what the local industry produces, while India consumes about 99 percent.¹⁶

A second limitation to Brazil's ability to enhance its geopolitical interests rests in U.S. dominance over Latin America. U.S. hegemony diminishes Brazil's power advantage relative to the other South American countries and constrains the use of force to the defense of territorial integrity and national sovereignty, when threatened. Therefore, as Cavagnari points out, what is best left for Brazil is the peaceful resolution of conflicts and cooperation without being able to expand its influence beyond its borders through military means.¹⁷ This structural pressure toward cooperation with its neighbors further delegitimizes the stockpiling of weapons, driving the local arms industry to rely more heavily on the foreign market for the consumption of its products.

Low levels of domestic consumption inevitably drag the local industry into the jaws of the international market. Technology transfers become quite a controversy at this conjuncture because in order to export weapons made with foreign technology, the arms-maker has to acquire permission from the country from where the technology came in the first place. Brazil has been deeply concerned with its technological dependence on the United States. At the same time, the United States has hesitated to pass along defense

technology to Brazil, because the Brazilian list of consumers includes such U.S. foes as Libya and Iraq.

India, on the other hand, has benefited greatly from technology transfers--from both the United States and from the Soviet Union, at the same time--without India's export policy being a major concern of technology suppliers. During the times that India has tried to export, it has encountered resistance from the Soviet Union, in particular. This resistance has discouraged India from trying to open foreign markets for its weapons.¹⁸ Israel has been in a somewhat easier position than Brazil, because many times the United States has encouraged Israel to export weapons to "foes"--as evidenced in the case of the Iran-Contra controversy in 1987 when the Reagan administration sought to trade weapons for hostages, using Israel as a secret weapons supplier.¹⁹ Nevertheless, the United States does place export limitations on Israeli military products built with U.S. technology, as is the case of the Israeli Kfit jet, powered by General Electric J79 jet engines. The United States has vetoed its sale to third countries, such as Ecuador.²⁰

The relationship between the size of the market and technology transfers politics is particularly critical for South Korea. Because its domestic market is small--despite the military's high consumption, the need to export is high. Korean dependence on U.S. defense technology has led to several cases where the United States has not approved the export of Korean military hardware (built with U.S. technology) to third countries. This condition has prompted the Korean government, in Young-Sun Ha's words, "to develop

and produce more independently Korean-type weapons and military equipment not only for its combat effectiveness but also for the avoidance of potential military dependence and export controls."²¹

Even if the need to export is not as urgent, technological development cannot be divorced from the interrelation between the local industry and the international economic system. This realization is painful because the basic premise guiding arms production is the avoidance of political dependence derived from external linkages. India, probably the most vocal Third World autonomy-seeker, has been particularly aware of this interrelation between the local industry and the market. As Raju Thomas points out,²²

Under Nehru, the belief existed that in the foreseeable future, India could establish an independent technological base through an emulation of a series of Soviet-style crash five-year plans. Under Mrs. Gandhi, the policy gradually shifted to one of acquiring domestic technological capability together with a policy of gaining assured access to overseas weapons and technology.

A similar distinction between self-reliance (Nehru's goal) and self-sufficiency (Gandhi's goal) occurred over time in Brazil with the development of its own arms industry. While Brazil's policies of the 1960s envisioned self-reliance vis-à-vis U.S. technological power, by the early 1980s, self-sufficiency seemed to be a much more realistic goal. The 1984 U.S.-Brazilian memorandum did not come as a surprise, considering that the local arms industry was hard pressed to obtain foreign technology so as to continue the consolidation of its technological base.

The goal of self-sufficiency still has as its core the acquisition of domestic technological capability, but the domestic market is much more receptive to linkages with the international market than the state might be willing to accept. The state is an important actor in the international arms market by helping local industries to develop their technological capability, as the Brazilian case indicated. In more extreme cases, the state also dominates production. In Argentina, for instance, the state-owned Fabricaciones Militares consists of 22 companies producing the equivalent of 14 percent of the country's manufacturing gross domestic product (GDP).²³ But even in those cases, the state may be forced to interact with the external market in order to gain access to new technology. The joint development of the CBA-123 aircraft by Embraer and Fabricaciones Militares is a clear example of complementary needs. While the Brazilian company supplied the technology, Argentina--through its state company--supplied the capital for the program.

In the Brazilian case, from the beginning of the military industrialization effort in the 1960s, the local economy was closely associated with the international market, particularly through the dynamic growth of foreign investment in the domestic industrial sector. As a national-security goal, autarky was unrealistic for Brazilian policy-makers from the beginning. What was hoped, nevertheless, was that the local industry would develop its own technological capacity--a goal which has not yet been fulfilled. Even self-sufficiency now proves an elusive goal as the arms industry comes to

depend more closely on foreign technology. The international market does set the standard on technological sophistication, and the local industries simply play the incessant role of catching up.

Concluding Remarks: A Final Word on the Paradox

There is an interrelation between the international political system (geopolitical considerations in asymmetrical relations) and the international economic system (the international arms market), which remains underexplored in the international security literature. The essence of national-security policy-making in the post-war economic order rests in the constant effort by participants to control the international market, and in the process, to protect themselves from other actors. This elusive quest (controlling the market) has as its foundation the constant preoccupation with dependence on other actors. Dependence in the market entails a vulnerability if other actors are able to control the market and extract monopoly rents.

Power, in this sense, represents the ability either to control the arms market or to escape from it. In this study, we have seen that both the United States and Brazil have experienced different degrees of power capability given the changes in the international economic system. During the booming period in Brazil's military industrialization (1960s and 70s), the United States was powerless in its attempt to control the direction of Brazil's national security policy-making. By the 1980s, however, the United States was in a

much better position to extract monopoly rents from the international arms market, thus affecting Brazil's position in the market.

This study suggests three themes that need further exploration in future research endeavors:

1. The size of the domestic arms market is a function of the geopolitical condition of the country in the state system. A small domestic market (due to low geopolitical threats or simply to small geographic size) increases the pressure to link military industrialization to the international trade system in the form of an aggressive export policy.
2. Survival in the international arms trade system is a direct function of domestic technological innovation. Technology transfers close the gap between weak domestic technological innovation and the demand for sophisticated weapons in the international market.
3. Technology imports may establish political linkages that often reinforce traditional geopolitical patterns.

In this study, we have constituted the international market as possessing its own dynamic and imposing its own logic on players, thus establishing rules that go beyond the control of any of the players. This study has shown how structural forces pushed Brazil toward the signing of a technology transfer memorandum with the United States, while internal forces were pushing Brazil away from close military ties with that same country. This contradictory position reflects the character of military industrialization in the Third World under the post-war international economic order. The yearning for self-reliance as a national-security goal has

clashed directly against the continuing expansion of global economic processes.

Ironically, this very expansion (internationalization of capital and, consequently, production) is one of the leading factors sparking the Third World aspiring powers' desire for military industrialization. On the one hand, the state has come to see the international market as a benevolent force, enabling the individual state to climb out of its dark age of technological backwardness. Brazil could not have developed its next generation of fighters (AMX) without the joint venture established with two Italian multinational corporations. On the other hand, the international market is seen as a malevolent force, exposing the local industry to potential coercion by other states--the 1987 Missile Technology Control Regime. In embracing the market, therefore, a state must be prepared to receive both rewards and punishment.

Obviously, no state can opt itself out of the international political system. Even if Cuba had broken away from the Inter-American community, it would always have to contend with the presence of the United States, as an overwhelming neighbor. Voluntarism is a rare art in systemic analysis because geopolitics always imposes its own logic. The escape attempt does entail voluntary action because the state is presented with several alternatives. But each alternative has varying costs and benefits, which in themselves help define the possible outcomes.

In the Brazilian case, escaping the U.S. hemispheric defense order, as imposed in the 1950s, meant either the search for alternative suppliers or the development of an indigenous arms industry. While the first alternative was pursued vigorously because of the availability of European weapons suppliers, the internationalization of capital and production made the second alternative particularly attractive. The dynamic of technology transfers, as discussed in Chapter II, constituted an effective instrument of liberation in the 1960s and 1970s when Brazil consolidated its position as an arms producer. Geopolitics has played a central role in the national-security agenda by determining the limits and needs of the actor in relation to its environment. Because Brazil has no urgent need to stockpile weapons, internal demand is low. The dependence on the export sector for the survival of the arms industry has been a continuing struggle in the Brazilian national-security strategy.

Notes

1. Janne Nolan, Trappings of Power; Ballistic Missiles in the Third World (Washington, D.C.: The Brookings Institutions, 1991), 5.

2. Janne Nolan, "Ballistic Missiles in the Third World--The Limits of Nonproliferation," Arms Control Today 19 (November 1989): 10.

3. As quoted in Richard W. Stevenson, "Fears on Cut In U.S. Arms," The New York Times, 29 April 1991, p. C8.

4. For an example of this type of reasoning, see Nolan, "Ballistic Missiles," 11.

5. For a more detailed discussion on Gaullist foreign policy, see Wilfrid L. Kohl, French Nuclear Diplomacy (Princeton: Princeton University Press, 1971), 123-77.

6. Michael M. Harrison, The Reluctant Ally: France and Atlantic Security (Baltimore: The Johns Hopkins University Press, 1981), 204.

7. Wolf Mendl, Deterrence and Persuasion. French Nuclear Armament in the Context of Nuclear Policy, 1945-1969 (New York: Praeger Publishers, 1970), 63.

8. "Prize fighter," The Economist, 27April 1991, 18.

9. For useful survey sources, see James Everett Katz, ed., Arms Production in Developing Countries (Lexington, Mass.: D.C. Heath and Company, 1984); Edward A. Kolodziej and Robert E. Harkavy, eds., Security Policies of Developing Countries. Lexington, Mass.: D.C. Heath and Company, 1982; James Everett Katz, ed., The Implications of Third World Military Industrialization (Lexington, Mass.: D.C. Heath and Company, 1986).

10. For a general review of the Indian arms industry and military industrialization policy, see Thomas W. Graham, "India," in Arms Production in Developing Countries, ed. James Everett Katz (Lexington, Mass.: D.C. Heath and Company, 1984), 157-191.

11. For a general overview of Mexico's arms industry, see Marvin Alisky, "Mexico," in Arms Production in Developing Countries, ed. James Everett Katz (Lexington, Mass.: D.C. Heath and Company, 1984), 247-63.

12. Eduardo Juan Uriburu, El Plan Europa, un Intento de Liberación Nacional (Buenos Aires: Cruz y Fierro Editores, 1970); for a general overview of Argentina's security policy, see Edward S. Milenky, "Argentina," in Security Policies of Developing Countries, eds. Edward A. Kolodziej and Robert E. Harkavy (Lexington, Mass.: D.C. Heath and Company, 1982), 27-51.

13. Raju G.C. Thomas, "India," in Security Policies of Developing Countries, eds. Edward A. Kolodziej and Robert E. Harkavy (Lexington, Mass.: D.C. Heath and Company, 1982), 130.

14. Graham, "India," 175.

15. Raju G. C. Thomas, "India: The Politics of Weapons Procurement," in The Implications of Third World Military Industrialization, ed. James Everett Katz (Lexington, Mass.: D.C. Heath and Company, 1986), 154.

16. For the Indian defense consumption level, see Graham, "India," 177.
17. Geraldo Lesbat Cavagnari Filho, "Brasil: Introdução ao Estudo de uma Potência Média," in Militares: Pensamento e Ação Política, ed. Eliézer Rizzo de Oliveira (Campinas, SP: Papirus, 1987), 144.
18. Graham, "India," 177.
19. See, for instance, Barry Rubin, "U.S. Policy and the Middle East, 1985-1988: The Impact of the Iran-Contra Affair," in The Middle East from the Iran-Contra Affair to the Intifada, ed. Robert O. Freedman (Syracuse, NY: Syracuse University Press, 1991), 74-94.
20. Bernard Reich, "Israel," in Security Policies of Developing Countries, eds. Edward A. Kolodziej and Robert E. Harkavy (Lexington, Mass.: D.C. Heath and Company, 1982), 225, n. 36.
21. Young-Sun Ha, "South Korea," in Arms Production in Developing Countries, ed. James Everett Katz (Lexington, Mass.: D.C. Heath and Company, 1984), 231.
22. Thomas, "India: The Politics of Weapons Procurement," 159.
23. Carlos H. Waisman, "Argentina: Economic and Political Implications," in The Implications of Third World Military Industrialization, ed. James Everett Katz (Lexington, Mass.: D.C. Heath and Company, 1986), 93.

REFERENCES

- "A decisão surpreende até a área diplomática." O Estado de S. Paulo, 12 March 1977, p. 1.
- "A Major Contender in the Arms Business." Business Week, 31 July 1978, 45.
- Albrecht, Ulrich. "The Federal Republic of Germany and Italy: New Strategies of Mid-Sized Weapons Exporters?" Journal of International Affairs 40 (Summer 1986): 129-42.
- Alisky, Marvin. "Mexico." In Arms Production in Developing Countries, edited by James Everett Katz, 247-63. Lexington, Mass.: D.C. Heath and Company, 1984.
- "Almirante William M. Fichteler." Revista Marítima Brasileira 72 (Oct.-Dec. 1952): 398-402.
- Alves, Maria Helena Moreira. State and Opposition in Military Brazil. Austin: University of Texas Press, 1985.
- Anciães, Wanderley. "Trinta anos do CNPq: política científica e tecnológica." Interciencia 7 (March-April 1982): 100-1.
- "Angry Brazil Cancels Pact With U.S." The Washington Post, 12 March 1977, pp. A1, A8.
- "Após rejeição de ajuda, o novo passo era inevitável." O Estado de S. Paulo, 12 March 1977, p. 13.
- "Armas, o novo aliado da balança comercial." Negócios em EXAME, 4 Nov. 1981, 42-8.
- Arruda, Antônio de. ESG--História de sua Doutrina. São Paulo: Edições GRD/INL/MEC, 1980.
- Arruda, Mauro Fernando Maria. "O Brasil face à nova arrancada tecnológica." Revista Brasileira de Tecnologia 15 (Sept.-Oct. 1984): 28-32.
- "Assinado o Acordo Brasil-E.U.A." O Estado de S. Paulo, 16 March 1952, p. 1.

Attachment to Letter. Luke Tsung-Chou Lee to President Carter, 7 Aug. 1978, "TR 25-2 4/21/78-1/20/81," Box TR-17, WHCF-Subject File, Jimmy Carter Library, Atlanta, Ga.

Aviation Week & Space Technology. 20 April 1987, 28.

-----, 23 Oct. 1989, 15.

"Avibras Seeks Better Balance of Domestic, Export Business." Aviation Week & Space Technology, 25 June 1984, 209.

Ayres, Ron. "Arms Production as a Form of Import-Substituting Industrialization: The Turkish Case." World Development 11 (Sept. 1983): 813-23.

Bacchus, Wilfred A. Mission in Mufti: Brazil's Military Regimes, 1964-1985. Westport: Greenwood Press, 1990.

Bachrach, P. and M. S. Baratz. "Two Faces of Power." American Political Science Review 56 (Dec. 1962): 947-52.

-----, "Decisions and Nondecisions: An Analytical Framework." American Political Science Review 57 (Sept. 1963): 632-42.

-----, Power and Poverty: Theory and Practice. Oxford: Oxford University Press, 1970.

Bailey, Norman A. and Ronald M. Schneider. "Brazil's Foreign Policy: A Case Study in Upward Mobility." Inter-American Economic Affairs 27 (Spring 1974): 3-25.

Baldwin, David A. Paradoxes of Power. New York: Basil Blackwell, 1989.

Ball, Nicole. Security and Economy in the Third World. Princeton: Princeton University Press, 1988.

Balz, Daniel J., Richard Corrigan and Robert J. Samuelson. "Muffling the Arms Explosion." National Journal, 2 April 1977, 496-513.

BANAS. No. 1279 (Oct. 1982): 20-2.

Baranson, Jack. "Offset Requirements: US Companies React to Escalating Demands." Multinational Business no. 3 (Autumn 1987): 25-34.

- Barbalet, J. M. "Power, Structural Resources, and Agency." Current Perspectives in Social Theory 8 (1987): 1-24.
- Barros, Alexandre de. "Brazil." In Arms Production in Developing Countries, edited by James Everett Katz, 73-87. Lexington, Mass.: Lexington Books, 1984.
- , "O Modelo da Indústria Bélica Brasileira: História e Implicações." In Militares: Pensamento e Ação Política, edited by Eliézer Rizzo de Oliveira, 87-102. Campinas, SP: Papirus, 1987.
- Becker, David G., Jeff Frieden, Sayre P. Schatz and Richard L. Sklar, eds. Postimperialism: International Capitalism and Development in the Late Twentieth Century. Boulder & London: Lynne Rienner Publishers, 1987.
- Benevides, Maria Victoria de Mesquita. O governo Kubitschek: desenvolvimento econômico e estabilidade política, 1956-1961. Rio de Janeiro: Editora Paz e Terra, 1976.
- Bennett, Douglas C. and Kenneth E. Sharpe. Transnational Corporations Versus the State: The Political Economy of the Mexican Auto Industry. Princeton: Princeton University Press, 1985.
- Bentley, Helen Delich. Letter to the Editor. The New York Times, 20 Nov. 1989, p. 24.
- Bento, Cláudio Moreira. "Getúlio Vargas e a Evolução da Doutrina do Exército (1930-45)." Revista do Instituto Histórico e Geográfico Brasileiro 339 (April-June 1983): 63-71.
- Boaventura, Jorge. "A Doutrina de Segurança Nacional." In Militares: Pensamento e Ação Política, edited by Eliézer Rizzo de Oliveira, 45-51. Campinas, SP: Papirus, 1987.
- "Bonn retarda o acordo nuclear." O Estado de S. Paulo, 5 March 1977, p. 1.
- Bostick, Jerry. Interview with author. Houston, Texas, 22 May 1990.
- Bowles, Lamar. Interview with author. Houston, Texas, 22 May 1990.
- "Brasil denuncia o acordo militar com os EUA." O Estado de S. Paulo, 12 March 1977, p. 1.

Brasil, Ministério da Indústria e do Comércio. Secretaria de Tecnologia Industrial. Política tecnológica brasileira; desempenho e articulação. Brasília, 1987.

"Brasil reconhece Guiné e pede seu ingresso na ONU." Jornal do Brasil, 19 July 1974, p. 3.

"Brasil reconhece o Governo na Capital." Jornal do Brasil, 11 Nov. 1975, p. 10.

"Brazil Cancels 4 U.S. Military Pacts." The New York Times, 20 Sept. 1977, p. 8.

"Brazil's Nuclear Choice." Editorial. The Washington Post, 7 March 1977, p. A20.

Brigagão, Clóvis. "Cancelamento do Acordo." Revista Brasileira de Política Internacional 21 (1978): 103-9.

-----, "The Case of Brazil: Fortress or Paper Curtain?" Impact of Science on Society 31 (Jan.-March 1981): 17-31.

-----, "O Mercado de Segurança." In Militares: Pensamento e Ação Política, edited by Eliézer Rizzo de Oliveira, 109-15. Campinas, SP: Papirus, 1987.

Brooke, James. "Dateline Brazil: Southern Power." Foreign Policy 44 (Fall 1981): 167-80.

-----, "Gulf Crisis Has Brazil in a Tailspin." The New York Times, 27 Aug. 1990, p. C10.

Brzoska, Michael. "The Reporting of Military Expenditures." Journal of Peace Research 18 (1981): 261-75.

-----, "The Military Related External Debt of Third World Countries." Journal of Peace Research 20 (1983): 271-7.

Buzan, Barry. An Introduction to Strategic Studies: Military Technology and International Relations. New York: St. Martin's Press, 1987.

Camargo, Sonia de, and José María Vásquez Ocampo. Autoritarismo e Democracia na Argentina e Brasil. São Paulo: Editora Convívio, 1988.

- Cardoso, Fernando Henrique, and Enzo Faletto. Dependency and Development in Latin America. Translated by Marjory Mattingly Urquidí. Berkeley and Los Angeles: University of California Press, 1979.
- Carvalho, Setembrino de. Memórias; Dados para a História do Brasil. Rio de Janeiro, 1950.
- Catrina, Christian. Arms Transfers and Dependence. New York: Taylor & Francis, 1988.
- Cavagnari Filho, Geraldo Lesbat. "Brasil: Introdução ao Estudo de uma Potência Média." In Militares: Pensamento e Ação Política, edited by Eliézer Rizzo de Oliveira, 133-44. Campinas, SP: Papirus, 1987.
- Clegg, Stewart R. Power, Rule and Domination: A Critical and Empirical Understanding of Power in Sociological Theory and Organizational Life. London: Routledge and Kegan Paul, 1975.
- . The Theory of Power and Organization. London: Routledge and Kegan Paul, 1979.
- . Frameworks of Power. London: SAGE Publications, 1989.
- Comblin, Joseph. A ideologia da Segurança Nacional. Translated by A. Veiga Fialho. 3rd Ed. Rio de Janeiro: Editora Civilização Brasileira, 1980.
- Couto e Silva, Golbery do. Planejamento Estratégico. Rio de Janeiro: Biblioteca do Exército Editora, 1955.
- . Conjuntura Política Nacional; O Poder Executivo e Geopolítica do Brasil. 3rd Ed. Rio de Janeiro: Livraria José Olympio Editora, 1981.
- Dagnino, Renato Peixoto. "A Indústria de Armamentos Brasileira: Sua Importância para a Avaliação da Relação Militares-Estado e Sociedade." In Militares: Pensamento e Ação Política, edited by Eliézer Rizzo de Oliveira, 125-32. Campinas, SP: Papirus, 1987.
- . "A indústria de armamentos brasileira: uma tentativa de avaliação." Ph.D. diss., Universidade de Campinas, Brazil, 1989.
- Dahl, Robert A. "The Concept of Power." Behavioral Science 2 (1957): 201-15.
- . Who Governs? Democracy and Power in an American City. New Haven: Yale University Press, 1961.

Deger, Saadet. Military Expenditure in Third World Countries. Boston: Routledge & Kegan Paul, 1986.

Deger, Saadet and Somnath Sen. "Technology Transfer and Arms Production in Developing Countries." Industry and Development no. 15 (June 1985): 1-18.

Denys, Odylio. Ciclo Revolucionário Brasileiro, Memórias. Rio de Janeiro: Editora Nova Fronteira, 1980.

Department of State Bulletin 81 (Nov. 1981): 87-9.

Dessler, David. "What's at stake in the agent-structure debate?" International Organization 43 (Summer 1989): 441-73.

"Documento ainda mantém vigência por mais 1 ano." O Estado de S. Paulo, 12 March 1977, p. 15.

Dos Santos, Theotonio. "The Structure of Dependency." American Economic Review 60 (May 1970): 231-6.

"É desdobramento, afirmam líderes dos dois partidos." O Estado de S. Paulo, 12 March 1977, p. 16.

Einaudi, Luigi, Hans Heymann, Jr., David Ronfeldt and Cesar Sereseres. "Arms Transfers to Latin America: Toward A Policy of Mutual Respect." Department of State Report R-1173-DOS. Santa Monica, Calif.: The Rand Corporation, June 1973.

Eisenhower, Dwight D. Waging Peace, 1956-1961. Garden City, NY: Doubleday & Company, Inc., 1965.

"Em segredo." Veja, 6 March 1991, 64.

"Estagnação Tecnológica e a Perda do Futuro." Problemas Brasileiros 24 (March-April 1987): 45-8.

"Europa surpresa com resposta do Brasil aos EUA." O Estado de S. Paulo, 12 March 1977, p. 15.

Evans, Peter. Dependent Development: The Alliance of Multinational, State, and Local Capital in Brazil. Princeton: Princeton University Press, 1979.

-----, "State, Capital, and the Transformation of Dependence: The Brazilian Computer Case." World Development 14 (July 1986): 791-808.

"Exame motivou espera." O Estado de S. Paulo, 12 March 1977, p. 13.

Farley, Philip J., Stephen S. Kaplan and William H. Lewis. Arms Across the Sea. Washington, D.C.: The Brookings Institute, 1978.

Fassy, Amaury. De Castelo a Sarney. Brasília: Thesaurus, 1987.

Fei, Edward T. "Understanding Arms Transfers and Military Expenditures: Data Problems." In Arms Transfers in the Modern World, edited by Stephanie T. Neuman and Robert E. Harkavy, 37-46. New York: Praeger Publishers, 1979.

Ferguson, Yale H. "Trends in Inter-American Relations: 1972-Mid-1974." In Latin America: The Search for a New International Role, edited by Ronald G. Hellman and H. Jon Rosenbaum, 1-24. New York: SAGE Publications, Inc., 1975.

Ferrari, Paul L., Raúl L. Madrid and Jeff Knopf. U.S. Arms Exports: Policies and Contractors. Cambridge, Mass.: Ballinger Publishing Company, 1988.

Figueiredo, M. Poppe de. Brasil, um gigante que despertou. Rio de Janeiro: Símbolo Agência de Comunicação, 1973.

Fisher, Lew. Interview with author. Houston, Texas, 23 May 1990.

Fishlow, Albert. "The United States and Brazil: The Case of the Missing Relationship." Foreign Affairs 60 (Spring 1982): 904-23.

Fontaine, Roger W. Brazil and the United States: Toward a Maturing Relationship. Washington, D.C., and Stanford, Calif.: AEI-Hoover Policy Studies, 1974.

Foucault, M. "Disciplinary Power and Subjection." In Power, edited by Steven Lukes, 229-42. New York: New York University Press, 1986.

Friedberg, Aaron L. "Is the United States Capable of Acting Strategically?" The Washington Quarterly 14 (Winter 1991): 5-23.

Frischtak, Claudio. "Brazil." In National Policies for Developing High Technology Industries: International Comparisons, edited by Francis W. Rushing and Carole Ganz Brown, 31-69. Boulder, Colo.: Westview Press, 1986.

- Fröbel, Folker, Jürgen Heinrichs, and Otto Kreye. The New International Division of Labour. Translated by Pete Burges. Cambridge: Cambridge University Press, 1980.
- Fundação IBGE. Anuário Estatístico do Brasil. Rio de Janeiro: Departamento de Divulgação Estatística, 1977.
- Gambini, Roberto. O duplo jogo de Getúlio Vargas: influência americana e alemã no Estado Novo. São Paulo: Edições Símbolo, 1977.
- Gasteyger, Curt. Searching for World Security. New York: St. Martin's Press, 1985.
- Gerschenkron, Alexander. Economic Backwardness in Historical Perspective. Cambridge, Mass.: Harvard University Press, 1962.
- Gianesini, Valentim Roque. Interview with author. São José dos Campos, Brazil, 14 March 1991.
- Giddens, Anthony. New Rules of Sociological Method. London: Hutchinson, 1976.
- . Central Problems in Social Theory: Action, Structure and Contradiction in Social Analysis. Berkeley and Los Angeles: University of California Press, 1979.
- . The Constitution of Society. Cambridge: Polity Press, 1984.
- Gil, Federico G. Latin American-United States Relations. New York: Harcourt Brace Jovanovich, Inc., 1971.
- Gill, Stephen and David Law. The Global Political Economy: Perspectives, Problems, and Policies. Baltimore: The Johns Hopkins University Press, 1988.
- Gilpin, Robert. War and Change in World Politics. New York: Cambridge University Press, 1983.
- . The Political Economy of International Relations. Princeton, N.J.: Princeton University Press, 1987.
- Godoy, Roberto. "Restrições não passam de 'fantasia.'" O Estado de S. Paulo, 5 Feb. 1984, p. 6.
- . "País sabe contornar restrições." O Estado de S. Paulo, 7 Feb. 1984, p. 7.

- , "A Indústria Militar no Brasil." In Militares: Pensamento e Ação Política, edited by Eliézer Rizzo de Oliveira, 103-7. Campinas, SP: Papirus, 1987.
- Goldhamer, Herbert. The Foreign Powers in Latin America. Princeton: Princeton University Press, 1972.
- Goodsell, James Nelson. "Brazil cashiers military government, but cashes in on arms sales." The Christian Science Monitor, 14 Jan. 1985, p. 11.
- Gordon, Michael R. "Competition with the Soviet Union Drives Reagan's Arms Sales Policy." National Journal, 16 May 1981, 868-73.
- Graham, Norman A. "Security Dilemmas in the Sale and Transfer of Pacing Technologies." In Marketing Security Assistance: New Perspectives on Arms Sales, edited by David J. Louscher and Michael D. Salomone, 215-27. Lexington, Mass.: D.C. Heath and Company, 1987.
- Graham, Thomas W. "India." In Arms Production in Developing Countries, edited by James Everett Katz, 157-191. Lexington, Mass.: D.C. Heath and Company, 1984.
- Green, David. "The Cold War Comes to Latin America." In Politics and Policies of the Truman Administration, edited by Barton J. Bernstein, 149-95. Chicago: Quadrangle Books, 1970.
- Guimarães, Eduardo Augusto, José Tavares de Araújo Jr., and Fábio Erber. A política científica e tecnológica. Rio de Janeiro: Jorge Zahar Editor, 1985.
- Gusmão, Maria Regina Rinto de. Ed. Comportamento dos institutos de pesquisa tecnológica industrial no Brasil. São Paulo: IPT, 1987.
- Ha, Young-Sun. "South Korea." In Arms Production in Developing Countries, edited by James Everett Katz, 225-33. Lexington, Mass.: D.C. Heath and Company, 1984.
- Hagelin, Björn. "Multinational Weapons Projects and the International Arms Trade." World Armaments and Disarmament, SIPRI Yearbook 1984. London: Taylor & Francis, 1984, 151-63.
- Haines, Gerald K. The Americanization of Brazil: A Study of U.S. Cold War Diplomacy in the Third World, 1945-1954. Wilmington, DE: Scholarly Resources Inc., 1989.

Hammond, Grant T. "Offset, Arms, and Innovation." The Washington Quarterly 10 (Winter 1987): 173-85.

Harrison, Michael M. The Reluctant Ally: France and Atlantic Security. Baltimore: The Johns Hopkins University Press, 1981.

Henriques, Affonso. Ascensão e Queda de Getúlio Vargas. Vol. 3. Rio de Janeiro and São Paulo: Distribuidora Record, n.d.

Herzfeld, Charles. "Technology and National Security: Restoring the U.S. Edge." The Washington Quarterly 12 (Summer 1989): 171-83.

Hilton, Stanley E. Brazil and the Great Powers, 1930-1939; The Politics of Trade Rivalry. Austin: University of Texas Press, 1975.

-----, "Brazil and the Post-Versailles World: Elite Images and Foreign Policy Strategy, 1919-1929." Journal of Latin American Studies 12 (Nov. 1980): 341-64.

-----, "The United States, Brazil, and the Cold War, 1945-60: End of the Special Relationship." The Journal of American History 68 (Dec. 1981): 599-624.

Hirschman, Albert O. National Power and the Structure of Foreign Trade. Berkeley and Los Angeles: University of California Press, 1945.

-----, "Beyond asymmetry: critical notes on myself as a young man and on some other old friends." International Organization 32 (Winter 1978): 45-50.

Hoge, Warren. "Brazil's Arms Find Willing Buyers in the Third World." The New York Times, 9 Aug. 1981, p. E3.

Holbraad, Carsten. Middle Powers in International Politics. New York: St. Martin's Press, 1984.

International Institute of Strategic Studies. The Military Balance, 1970-1971. London: IISS, 1970.

-----, The Military Balance, 1980-1981. London: IISS, 1980.

-----, The Military Balance, 1982-1983. London: IISS, 1982.

International Monetary Fund. International Financial Statistics Yearbook 1985. Washington, D.C.: IMF, 1985.

Jaguaribe, Hélio. Sociedade e política: um estudo sobre a atualidade brasileira. Rio de Janeiro: Jorge Zahar Editor, 1985.

Jones, Rodney W. and Steven A. Hildreth. Modern Weapons and Third World Powers. Boulder, Colo.: Westview Press, 1984.

Kapstein, Ethan B. "The Brazilian Defense Industry and the International System." Political Science Quarterly 105 (Winter 1990-91): 579-98.

Katz, James Everett, ed. Arms Production in Developing Countries. Lexington, Mass.: D.C. Heath and Company, 1984.

-----, ed. The Implications of Third World Military Industrialization. Lexington, Mass.: D.C. Heath and Company, 1986.

-----, "The United States: U.S. Arms Technology Transfer Policy." In The Implications of Third World Military Industrialization, edited by James Everett Katz, 3-22. Lexington, Mass.: D.C. Heath and Company, 1986.

Keatley, Anne G., ed. Technological Frontiers and Foreign Relations. Washington, D.C.: National Academy Press, 1985.

Kennedy, Paul M. The Rise and Fall of the Great Powers. New York: Random House, 1987.

Keohane, Robert O. and Joseph S. Nye. Power and Interdependence. Boston: Little, Brown and Company, 1977.

Kiracofe, Clifford Jr. "Brazil: An Emerging Strategic Factor in the Southern Atlantic." The Journal of Social and Political Studies 5 (Fall 1980): 199-230.

Klare, Michael T. "The Unnoticed Arms Trade: Exports of Conventional Arms-Making Technology." International Security 8 (Fall 1983): 68-90.

-----, American Arms Supermarket. Austin: University of Texas, 1984.

-----, "The State of the Trade: Global Arms Transfer Patterns in the 1980s." Journal of International Affairs 40 (Summer 1986): 1-21.

Klass, Gert von. Krupps: The Story of an Industrial Empire. Translated by James Cleugh. London: Sidgwick and Jackson, 1954.

Kohl, Wilfrid L. French Nuclear Diplomacy. Princeton: Princeton University Press, 1971.

Kolodziej, Edward A. and Robert E. Harkavy, eds. Security Policies of Developing Countries. Lexington, Mass.: D.C. Heath and Company, 1982.

Kramer, Paulo. "As Relações Militares Brasil-Estados Unidos." Política e Estratégia 4 (Jan.-March 1986): 44-53.

Krasner, Stephen D. Structural Conflict: The Third World Against Global Liberalism. Berkeley and Los Angeles: University of California Press, 1985.

Krugman, Paul R., ed. Strategic Trade Policy and the New International Economics. Cambridge: The MIT Press, 1986.

Lacerda, Celso Juarez de., comp. Ciência e Tecnologia: Um Desafio Permanente. Rio de Janeiro: Associação dos Diplomados da Escola Superior de Guerra, 1984.

Latin American Regional Reports Brazil. 3 Jan. 1986, 5.

----- . 8 Jan. 1986, 3.

----- . 14 March 1986, 5.

----- . 14 Aug. 1986, 5.

----- . 1 June 1989, 8.

Laurence, Edward J. and Joyce A. Mullen. "Assessing and Analyzing International Arms Trade Data." In Marketing Security Assistance: New Perspectives on Arms Sales, edited by David J. Louscher and Michael D. Salomone, 79-98. Lexington, Mass.: D.C. Heath and Company, 1987.

Layder, D. "Key Issues in Structuration Theory: Some Critical Remarks." Current Perspectives in Social Theory 8 (1987): 25-46.

Lehman, Stan. "Brazilian Arms Industry Sees Upswing." The Los Angeles Times, 29 Sept. 1990, p. D2.

Letter. Donald E. Mathes to Jody Powell, 2 May 1978, "TR 25-2 4/21/78-1/20/81," Box TR-17, WHCF-Subject File, Jimmy Carter Library, Atlanta, Ga.

- , Jimmy Carter to Ernesto Geisel, 31 March 1978, "ME 1/CO 22 1/20/77-1/20/81," Box ME-12, WHCF-Subject File, Jimmy Carter Library, Atlanta, Ga.
- , Richard E. Johnson to Zbigniew Brzezinski, 4 April 1978, "TR 25-2 1/20/77-4/20/78," Box TR-17, WHCF-Subject File, Jimmy Carter Library, Atlanta, Ga.
- , Zbigniew Brzezinski to General Golbery, 20 April 1978, "TR 25-2 1/20/77-4/20/78," Box TR-17, WHCF-Subject File, Jimmy Carter Library, Atlanta, Ga.
- Letter Attached to Memo. C. Arthur Borg to Zbigniew Brzezinski, 7 March 1977, "CO 22 1/20/77-8/31/77," Box CO-13, WHCF-Subject File, Jimmy Carter Library, Atlanta, Ga.
- Lim, Hyun-Chin. Dependent Development in Korea, 1963-1979. Seoul, South Korea: Seoul National University Press, 1986.
- Lock, Peter and Herbert Wulf. "The Economic Consequences of the Transfer of Military-oriented Technology." In The World Military Order, edited by Mary Kaldor and Asbjørn Eide, 210-231. New York: Praeger Publishers, 1979.
- Loftus, Joe. Telephone conversation with author. Houston, Texas, 23 May 1990.
- Long, William J. U.S. Export Control Policy. New York: Columbia University Press, 1989.
- Long, William R. "Saudis a Fading Target for Brazil Arms Industry." The Los Angeles Times, 30 Sept. 1990, p. A7.
- Looney, Robert E. "Economic Environments Conducive to Indigenous Third World Arms Production." The Singapore Economic Review 33 (Oct. 1988): 66-78.
- Louscher, David J. and Michael D. Salomone, eds. Marketing Security Assistance. Lexington, Mass.: D. C. Heath and Company, 1987.
- Lukes, Steven. Power: A Radical View. London: Macmillan, 1974.
- , ed. Power. New York: New York University Press, 1986.

- McCann, Jr., Frank D. "The Brazilian Army and the Problem of Mission, 1939-1964." Journal of Latin American Studies 12 (May 1980): 107-26.
- . "The Brazilian Army and the Pursuit of Arms Independence, 1899-1979." In War, Business and World Military-Industrial Complexes, edited by Cooling, B. Franklin, 171-93. Port Washington, N.Y.: Kennikat Press, 1981.
- Marini, Ruy Mauro. Subdesarrollo y revolución. Mexico City: Siglo Veintiuno Editores, 1969.
- Markoff, John. "Export Restrictions Fail to Halt Spread of Supercomputers." The New York Times, 21 Aug. 1990, p. A1.
- Martin, Everett. "Brazil Raises Exports Of High Technology, to Pace Third World." The Wall Street Journal, 6 Oct. 1981, p. A1.
- . "Argentina Develops Its Own Nuclear Facilities, But National Austerity Hampers the Program." The Wall Street Journal, 29 Nov. 1984, p. B36.
- Marton, Katherin. "Technology Transfer to Developing Countries via Multinationals." The World Economy 9 (Dec. 1986): 409-26.
- Mathias, Simão. "Evolução da pesquisa científica no Brasil." Interiencia 7 (Nov.-Dec. 1982): 340-3.
- Memo. Robert Pastor to Jody Powell and Jerry Schecter, 18 Oct. 1977, "CO 22 9/1/77-12/31/77," Box CO-13, WHCF-Subject File, Jimmy Carter Library, Atlanta, Ga.
- . Robert Pastor to Zbigniew Brzezinski, 4 Nov. 1977, "CO 22 9/1/77-12/31/77," Box CO-13, WHCF-Subject File, Jimmy Carter Library, Atlanta, Ga.
- . Robert Pastor to Zbigniew Brzezinski, 4 Nov. 1977, "TR 16-2 1/20/77-1/20/81," Box TR-14, WHCF-Subject File, Jimmy Carter Library, Atlanta, Ga.
- "Memorando militar já em vigor." O Estado de S. Paulo, 7 Feb. 1984, p. 7.
- Mendl, Wolf. Deterrence and Persuasion. French Nuclear Armament in the Context of Nuclear Policy, 1945-1969. New York: Praeger Publishers, 1970.

"Mercados abertos no sul." Veja, 18 June 1975, 19.

Milenky, Edward S. "Argentina." In Security Policies of Developing Countries, edited by Edward A. Kolodziej and Robert E. Harkavy, 27-51. Lexington, Mass.: D.C. Heath and Company, 1982.

Milkman, Ruth. "Contradictions of Semi-Peripheral Development: The South African Case." In The World-System of Capitalism: Past and Present, edited by W. L. Goldfrank, 261-84. Beverly Hills: Sage Publications, 1979.

Miller, Judith. "Third-World Lands Join Ranks of Arms Exporters." The New York Times, 13 Dec. 1981, p. 20.

Millis, Walter, ed. The Forrestal Diaries. New York: The Viking Press, 1951.

Mills, C. W. The Power Elite. Oxford: Oxford University Press, 1956.

Mingst, Karen A. "The Ivory Coast at the Semi-Periphery of the World-Economy." International Studies Quarterly 32 (Sept. 1988): 259-74.

Ministério das Relações Exteriores. Relatório. Brasília: Serviço de Publicações, 1952.

----- Relatório. Brasília: Serviço de Publicações, 1975.

Mir, Luís. "As armas do superávit." Senhor, 9 Feb. 1983, 39-41.

Miyamoto, Shiguenoli. "Escola Superior de Guerra: Mito e Realidade." Política e Estratégia 5 (Jan.-March 1987): 76-97.

Moffett, George D. "Argentina and Brazil reportedly agree to major A-plant pact." The Christian Science Monitor, 18 March 1985, p. 3.

Morgenthau, Hans J. Politics Among Nations. 5th Ed. New York: Knopf, 1973.

Morocco, John D. "Task Force Urges Overhaul of Pentagon Policy On Industrial Cooperation With Pacific Rim." Aviation Week & Space Technology, 13 Nov. 1989, 32.

Motoyama, Shozo. "Ciência e tecnologia e a história da dependência do Brasil." Revista Brasileira de Tecnologia 15 (May-June 1984): 5-17.

- Moura, Gerson. Autonomia na Dependência; A Política Externa Brasileira de 1935 a 1942. Rio de Janeiro: Editora Nova Fronteira, 1980.
- Moura, Gerson and Paulo Kramer. "Brasil-EUA: as razões das diferenças." In Ciências sociais hoje, 1987. Compiled by Associação Nacional de Pós-graduação e Pesquisa em Ciências Sociais. São Paulo: Vértice, Editora Revista dos Tribunais, 1987.
- "Na despedida de Shultz, só o embaixador." O Estado de S. Paulo, 8 Feb. 1984, p. 6.
- National Academy of Sciences. Balancing the National Interest. Washington, D.C.: National Academy Press, 1987.
- Neuman, Stephanie G. "International Stratification and Third World Military Industries." International Organization 38 (Winter 1984): 167-97.
- ". "Coproduction, Barter, and Countertrade: Offsets in the International Arms Market." Orbis 29 (Spring 1985): 183-213.
- ". "The Arms Market: Who's on Top?" Orbis 33 (Fall 1989): 509-29.
- "Never Will This New World Undertake Aggression!" Brazil 27 (First Quarter 1953): 6.
- Nolan, Janne. "Ballistic Missiles in the Third World--The Limits of Nonproliferation." Arms Control Today 19 (Nov. 1989): 9-14.
- ". Trappings of Power: Ballistic Missiles in the Third World. Washington, D.C.: The Brookings Institution, 1991.
- North, David M. "Embraer Expands Its Facilities for Two New Aircraft." Aviation Week & Space Technology, 22 Aug. 1983, 144.
- "O Acordo Entre o Brasil e os Estados Unidos." O Estado de S. Paulo, 18 March 1952, p. 1.
- "O Compromisso da Defesa Mútua do Continente Americano." Revista Marítima Brasileira 77 (Jan.-March 1957): 195-9.
- O Estado de S. Paulo, 6 March 1977, p. 1.
- "O jogo pesado das armas." Veja, 13 March 1991, 62.

- Oberdorfer, Don. "State Dept. Lists Rights Conditions in 82 Countries." The Washington Post, 13 March 1977, p. 1.
- Oliveira, Eliézer Rizzo de. "A Doutrina de Segurança Nacional: Pensamento Político e Projeto Estratégico." In Militares: Pensamento e Ação Política, edited by Eliézer Rizzo de Oliveira, 53-86. Campinas, SP: Papirus, 1987.
- Olsen, Edward A. "A Case for Strategic 'Protectionism.'" Strategic Review 15 (Fall 1987): 63-9.
- Onis, Juan de. "U.S. Improving Ties to Latin Rightists." The New York Times, 8 March 1981, p. 4.
- Organski, A.F.K. World Politics. 2nd Ed. New York: Alfred A. Knopf, 1968.
- Organski, A.F.K. and Jacek Kugler. The War Ledger. Chicago and London: The University of Chicago Press, 1980.
- Pear, Robert. "Arms Sales to Third World Said to Decline Sharply." The New York Times, 21 June 1990, p. A6.
- Penna, J. O. de Meira. Política Externa: Segurança e Desenvolvimento. Rio de Janeiro: Livraria Agir Editora, 1967.
- Pereira, Roberto. "A Natureza Política da Produção de Armamentos no Brasil." In Militares: Pensamento e Ação Política, edited by Eliézer Rizzo de Oliveira, 117-24. Campinas, SP: Papirus, 1987.
- Perruci, Gamaliel Jr. and Steven E. Sanderson. "Presidential Succession, Economic Crisis, and Populist Resurgence in Brazil." Studies in Comparative International Development 24 (Fall 1989): 30-50.
- Perry, William. Contemporary Foreign Policy: The International Strategy of an Emerging Power. Beverly Hills: SAGE Publications, 1976.
- Pierre, Andrew J. "Arms Sales: the New Diplomacy." Foreign Affairs 60 (Winter 1981): 266-86.
- . The Global Politics of Arms Sales. Princeton: Princeton University Press, 1982.
- Piorkowski, Anne. "Brazilian Computer Import Restrictions: Technological Independence and Commercial Reality." Law and Policy in International Business 17 (Summer 1985): 619-45.

"Prize fighter." The Economist, 27 April 1991, 18.

"Programa de verão." Veja, 3 Aug. 1988, 50-2.

Quadros, Jânio. "Brazil's New Foreign Policy." In Latin American Politics, edited by Carlos Alberto Astiz. Notre Dame: University of Notre Dame Press, 1969.

Rabe, Stephen G. Eisenhower and Latin America; The Foreign Policy of Anticommunism. Chapel Hill: The University of North Carolina Press, 1988.

Raine, Philip. Brazil: Awakening Giant. Washington, D.C.: Public Affairs Press, 1974.

Ramamurti, Ravi. State-Owned Enterprises in High Technology Industries. Westport, Conn.: Praeger Publishers, 1987.

Reich, Bernard. "Israel." In Security Policies of Developing Countries, edited by Edward A. Kolodziej and Robert E. Harkavy, 203-25. Lexington, Mass.: D.C. Heath and Company, 1982.

"Resistência à política externa supera previsão." Visão, 8 Dec. 1975, 28-30.

Riding, Alan. "Brazil's Burgeoning Arms Industry." The New York Times, 3 Nov. 1985, p. C4.

Roberts, A. D. "The sub-imperialism of the Baganda." Journal of African History 3 (1962): 435-50.

Rocha Lima, Valentina da. Getúlio: uma história oral. Rio de Janeiro: Editora Record, 1986.

Ronfeldt, David and Caesar Sereseres. "U.S. Arms Transfers, Diplomacy, and Security in Latin America and Beyond." Santa Monica, Calif.: The Rand Corporation, Oct. 1977.

Rosenbaum, H. Jon and William C. Tyler. "Latin American Economic Relations with the Third World." In Latin America's New Internationalism, edited by Roger W. Fontaine and James D. Theberge. New York: Praeger Publications, 1976.

Rossi, Clóvis. "Denúncia é resposta às pressões dos EUA." O Estado de S. Paulo, 12 March 1977, p. 13.

- Rubin, Barry. "U.S. Policy and the Middle East, 1985-1988: The Impact of the Iran-Contra Affair." In The Middle East from the Iran-Contra Affair to the Intifada, edited by Robert O. Freedman, 74-94. Syracuse, NY: Syracuse University Press, 1991.
- Salvatore, Dominick, ed. The New Protectionist Threat to World Welfare. New York and Amsterdam: North-Holland, 1987.
- Sampson, Anthony. The Arms Bazaar. New York: The Viking Press, 1977.
- Santos, Norma Breda dos. "Geopolítica e Segurança Nacional." Política e Estratégia 5 (Oct.-Dec. 1987): 550-74.
- Santos, Wanderley Guilherme dos. Sessenta e Quatro: Anatomia da Crise. São Paulo: Vertice, 1986.
- Saunders, Christopher. The Political Economy of New and Old Industrial Countries. Boston and London: Butterworths, 1981.
- Schneider, Ronald M. Brazil: Foreign Policy of a Future World Power. Boulder: Westview Press, 1976.
- Schultz, Lars. National Security and United States Policy toward Latin America. Princeton: Princeton University Press, 1987.
- Schwarz, Ann Taylor. "Arms Transfers and the Development of Second-Level Arms Industries." In Marketing Security Assistance: New Perspectives on Arms Sales, edited by David J. Louscher and Michael D. Salomone, 101-30. Lexington, Mass.: D.C. Heath and Company, 1987.
- Scott, J. D. Vickers, A History. London: Weindenfeld and Nicolson, 1962.
- "Secretário reconhece progresso." O Estado de S. Paulo, 7 Feb. 1984, p. 4.
- Selcher, Wayne A. Brazil in the Global Power Systems. Occasional Papers Series No. 11. Washington, D.C.: Center for Brazilian Studies, The John Hopkins University, 1979.
- , Brazil in the International System: The Rise of a Middle Power. Boulder: Westview Press, 1981.
- "Sem resposta." Veja, 23 March 1977, 23-4.
- Sen, Guatam. The Military Origins of Industrialisation and International Trade Rivalry. New York: St. Martin's Press, 1984.

Serra, José. "Existe uma saída." Veja, 1 Aug. 1990, 58-65.

Shifrin, Carole A. "Lower East-West Tensions May Boost Joint European Defense Projects." Aviation Week & Space Technology, 19 March 1990, 86-8.

Sieniawski, Michael. "Brazil cashes in with open-door policy on arms sales." The Christian Science Monitor, 12 Nov. 1982, p. 15.

Silva, Francisco Antônio Cavalcanti da. Tecnologia e dependência: o caso do Brasil. Fortaleza and Rio de Janeiro: Edições UFC/Civilização Brasileira, 1980.

Skidmore, Thomas E. The Politics of Military Rule in Brazil, 1964-85. New York: Oxford University Press, 1988.

Smaldone, Joseph P. "U.S. Commercial Arms Exports: Policy, Process, and Patterns." In Marketing Security Assistance: New Perspectives on Arms Sales, edited by David J. Louscher and Michael D. Salomone, 185-208. Lexington, Mass.: D.C. Heath and Company, 1987.

Smith, Charles. Japanese Technology Transfer to Brazil. Ann Arbor, Michigan: UMI Research Press, 1981.

Soares, Teixeira. O Brasil no Conflito Ideológico Global (1937-1979). Rio de Janeiro: Civilização Brasileira, 1980.

Soares D'Araújo, Maria Celina. O Segundo Governo Vargas, 1951-1954. Rio de Janeiro: Zahar Editores, 1982.

Sotero, Paulo. "Brazil estudará adesão a acordo sobre mísseis." O Estado de S. Paulo, 9 March 1991, p. 12.

Souza Júnior, Antônio de. O Brasil e a Terceira Guerra Mundial. Rio de Janeiro: Biblioteca do Exército Editôra, 1959.

Spanier, John. Games Nations Play. 7th Ed. Washington, D.C.: Congressional Quarterly Inc., 1990.

Spiegel, Steven L. Dominance and Diversity: The International Hierarchy. Boston: Little, Brown and Company, 1972.

Stepan, Alfred. The Military in Politics; Changing Patterns in Brazil. Princeton: Princeton University Press, 1971.

- . Rethinking Military Politics: Brazil and the Southern Cone. Princeton, NJ: Princeton University Press, 1988.
- Stepan, Alfred, ed. Authoritarian Brazil: Origins, Policies, and Future. New Haven: Yale University Press, 1973.
- Stevenson, Richard W. "Fears on Cut In U.S. Arms." The New York Times, 29 April 1991, p. C1.
- Stockholm International Peace Research Institute. World Armaments and Disarmament, SIPRI Yearbook 1969-1970. London: Gerald Duckworth & Co. Ltd., 1970.
- . World Armaments and Disarmament, SIPRI Yearbook 1985. London: Taylor & Francis, 1985.
- . World Armaments and Disarmament, SIPRI Yearbook 1988. New York: Oxford University Press, 1988.
- . World Armaments and Disarmament, SIPRI Yearbook 1990. New York: Oxford University Press, 1990.
- Streeten, Paul. "A Cool Look at 'Outward-looking' Strategies for Development." The World Economy 5 (Sept. 1982): 159-69.
- Tab A Attachment to Memo. Robert Pastor to Zbigniew Brzezinski, 4 Nov. 1977, "CO 22 9/1/77-12/31/77," Box CO-13, WHCF-Subject File, Jimmy Carter Library, Atlanta, Ga.
- Tharp, Mike. "A Divine Wind in Disguise." U.S. News & World Report, 25 June 1990, 44.
- Thomas, Raju G.C. "India." In Security Policies of Developing Countries, edited by Edward A. Kolodziej and Robert E. Harkavy, 119-37. Lexington, Mass.: D.C. Heath and Company, 1982.
- . "India: The Politics of Weapons Procurement." In The Implications of Third World Military Industrialization, edited by James Everett Katz, 151-63. Lexington, Mass.: D.C. Heath and Company, 1986.
- Tigre, Paulo Bastos. Technology and Competition in the Brazilian Computer Industry. New York: St. Martin's Press, 1983.
- Trebilcock, Clive. The Vickers Brothers: Armaments and Enterprise, 1854-1914. London: Europa Publications Limited, 1977.

Truman, Harry S. Memoirs. Vol. 2. Garden City, NY: Doubleday & Company, Inc., 1956.

Tuomi, Helena and Raimo Väyrynen. Transnational Corporations, Armaments and Development. New York: St. Martin's Press, 1982.

Uchitelle, Louis. "Difficult Switch For Arms Makers." The New York Times, 23 April 1990, p. C2.

"Ultimo ato: Brasil paga equipamento emprestado." O Estado de S. Paulo, 12 March 1977, p. 13.

"Um convívio melhor." Veja, 5 April 1978, 16-22.

"Uma diplomacia de golpes e contragolpes." Veja, 16 March 1977, 20-6.

United Nations. General Assembly, 23rd Session. Official Records of 1677th Plenary Meeting, 2 Oct. 1968.

----- General Assembly, 25th Session. Official Records of 1841th Plenary Meeting, 17 Sept. 1970.

----- General Assembly, 26th Session. Official Records of 1940th Plenary Meeting, 27 Sept. 1971.

----- General Assembly, 27th Session. Official Records of 2038th Plenary Meeting, 25 Sept. 1972.

----- General Assembly, 28th Session. Official Records of 2124th Plenary Meeting, 24 Sept. 1973.

----- General Assembly, 29th Session. Official Records of 2238th Plenary Meeting, 23 Sept. 1974.

United States, Arms Control and Disarmament Agency. World Military Expenditures and Arms Transfers, 1985. Washington, D.C.: Government Printing Office, 1985.

----- World Military Expenditures and Arms Transfers, 1986. Washington, D.C.: Government Printing Office, 1987.

United States, Department of State. Briefing Paper, attachment to Memo, Peter Tarnoff to Zbigniew Brzezinski, 17 Dec. 1980, "CO22 5/1/78-1/20/81," Box CO-13, WHCF-Subject File, Jimmy Carter Library, Atlanta, Ga.

United States, House of Representatives. Committee on Foreign Relations. United States-Brazilian Relations: Hearing before the Subcommittee on Inter-American Affairs. 97th Cong, 2nd sess., 14 July 1982.

United States, Senate. Committee on Armed Services. Ballistic and Cruise Missile Proliferation in the Third World: Hearing before the Subcommittee on Defense Industry and Technology. 101st Cong., 1st sess., 2 May 1989.

Uriburu, Eduardo Juan. El Plan Europa, un Intento de Liberación Nacional. Buenos Aires: Cruz y Fierro Editores, 1970.

Varas, Augusto. "The Transfer of Military Technology to Latin America." Disarmament 12 (Autumn 1989): 95-109.

Vargas, Luthero. Getúlio Vargas: A Revolução Inacabada. Rio de Janeiro, 1988.

Väyrynen, Raimo. "Economic and Political Consequences of Arms Transfers to the Third World." Alternatives 6 (March 1980): 131-55.

Vianna, Sérgio Besserman. "As relações Brasil-EUA e a política econômica do segundo governo Vargas." Revista Brasileira de Economia 40 (July-Sept. 1986): 193-210.

Vieira, Evaldo Amaro. A República Brasileira, 1964-1984. São Paulo: Editora Moderna, 1985.

Waisman, Carlos H. "Argentina: Economic and Political Implications." In The Implications of Third World Military Industrialization, edited by James Everett Katz, 93-102. Lexington, Mass.: D.C. Heath and Company, 1986.

Wallerstein, Immanuel. "Dependence in an Interdependent World: The Limited Possibilities of Transformation Within the Capitalist World-Economy." African Studies Review 17 (April 1974): 1-26.

----- . The Modern World System. New York: Academic Press, 1974.

----- . "Semi-peripheral countries and the contemporary world crisis." Theory and Society 3 (Winter 1976): 461-84.

----- . "The Present State of the Debate on World Inequality." In The Gap Between Rich and Poor: Contending Perspectives on the Political

Economy of Development, edited by Mitchell A. Seligson, 119-32. Boulder and London: Westview Press, 1984.

------. "The Relevance of the Concept of Semiperiphery to Southern Europe." In Semiperipheral Development: The Politics of Southern Europe in the Twentieth Century, edited by Giovanni Arrighi, 31-9. Beverly Hills: Sage Publications, 1985.

Waltz, Kenneth N. Theory of International Politics. Reading, Mass.: Addison-Wesley Publishing Company, 1979.

Weber, Max. Economy and Society. Translated by G. Roth and C. Wittich. Berkeley and Los Angeles: University of California Press, 1978.

Weidenbaum, Murray. "Defense 'Conversion'--An Empty Promise." The New York Times, 20 Aug. 1990, p. A15.

Weis, Luiz. "E, para alívio de todos, ele veio em paz." Veja, 5 April 1978, 22.

Wendt, Alexander. "The agent-structure problem in international relations theory." International Organization 41 (Summer 1987): 335-70.

Wendt, Alexander and Raymond Duvall. "Institutions and International Order." In Global Changes and Theoretical Challenges, edited by Ernst-Otto Czempiel and James N. Rosenau, 51-73. Lexington, Mass.: D.C. Heath and Company, 1989.

Wight, Martin. Power Politics. London: Royal Institute of International Affairs, 1948.

Wing, A. D. Interview with author. Marietta, Georgia, 10 Nov. 1990.

Wrong, Dennis H. Power: Its Forms, Bases, and Uses. Chicago: The University of Chicago Press, 1988.

Wulf, Herbert. "Developing Countries." In The Structure of the Defense Industry, edited by Nicole Ball and Milton Leitenberg, 310-43. London and Canberra: Croom Helm, 1983.

------. "Arms Production in the Third World." World Armaments and Disarmament, SIPRI Yearbook 1985. London: Taylor & Francis, 1985, 329-43.

Young, Jordan M. Brazil: Emerging World Power. Malabar, Fla.: Robert E. Krieger Publishing Company, 1982.

BIOGRAPHICAL SKETCH

Born in the port city of Recife, Brazil, on January 2, 1962, Gamaliel Perruci, Jr., attended primary and secondary schools in that country. In 1981, he went to Texas to attend undergraduate school at Baylor University, majoring in journalism and economics. After graduation, he married Kathleen Siler -- also an undergraduate student at Baylor at the time. They remained at Baylor another year, while Gamaliel worked on his master's in international journalism. Because of the University of Florida's strong emphasis on Latin America, particularly Brazil, Gamaliel began his Ph.D. studies there in 1986. He combined his interest in international security issues with his previous work on trade politics to specialize in Brazil's arms exports. In 1989, Gamaliel became a father with the birth of Caroline Ann. After graduation, he and his family will be moving to Alabama, where he will be teaching international relations and Latin American politics at Birmingham-Southern College.

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